



SEISMO INFO

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EARLY DETECTION FOR FOOD SAFETY – HIGHLIGHTS

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very important info



important info



interesting info

MICROBIOLOGY

★★★ Probiotic strain and safety assessment of unlabeled bacteria in infant products

Probiotics are added to infant foods for health, but label accuracy and safety are questioned. Using whole-genome sequencing, a study from **China** analyzed 23 products' strains and found high diversity, **antibiotic resistance genes**, and **virulence factors**, especially in *Bacillus cereus* and *Enterobacter hormaechei*. Some products had **fewer live bacteria than claimed**. [IntJFoodMicrobiol](#), 10 pages. (16.01.2026).

★★★ Detection of *Toxoplasma gondii* and *Sarcocystis* spp. in RTE- meat products purchased in Switzerland

Toxoplasma gondii was found in 14.9% and *Sarcocystis* spp. in 58.2% of 201 **ready-to-eat (RTE) meat products** from **Swiss retailers**. Zoonotic *S. suihominis* appeared in pork and *S. hominis* in beef. No viable cysts were detected. Pork, beef, and salami-like products showed higher parasite DNA presence. Results indicate a potential public health concern in RTE meats. [FoodWatParasitol](#), 11 pages. (12.11.2025).

★★★ STEC in "Ready-to-eat" salads

A recent study by the Federal Office of Consumer Protection and Food Safety (BVL) revealed that **pre-packaged "ready-to-eat" salads** may contain harmful bacteria. The study found **Shiga toxin-producing E. coli (STEC)** in 2.2% of samples and Salmonella in 0.6%, prompting the BVL to warn that these salads can be a source of infection, especially for those with **weakened immune systems**. The authority advises **vulnerable groups** to avoid these salads and wash ingredients thoroughly if preparing their own. [BVL](#), 2 pages. (24.11.2025).

★★★ Serious Listeria infections rising in Europe

In 2024, *Listeria* caused the highest proportion of hospitalisations and deaths among all foodborne infections reported in the **EU**. Around seven in 10 people infected with *Listeria* needed hospital care, and one in 12 people died. The **upward trend** of infections may reflect several factors, including Europe's **ageing population, changing eating habits**, such as increasing consumption of **ready-to-eat foods**, and **improper food handling and storage practices**. For ready-to-eat foods, contamination levels remain very low across most categories and samples exceeding the EU food safety limits range from 0% to 3%, with fermented sausages being the most frequently contaminated products. [ECDC](#), 191 pages. (09.12.2025). Original Publication: [ECDC](#).

★ Botulism outbreak traced to powdered formula

An outbreak of **botulism poisoning** among **infants** who were fed **formula** has increased to 15 babies across 12 states in the **US**. An official with the California Department of Public Health confirmed the new numbers. The Food and Drug Administration (FDA) announced the outbreak. All of them had been fed formula and all 15 babies now known to have botulism poisoning have been hospitalized, according to the Centers for Disease Control and Prevention (CDC). [FSN](#), 1 page. (10.11.2025). Additional Information: [Food Poison Journal](#), [More patients identified in outbreak of infant botulism](#), [update Food safety news from 25.11.2025](#).

★ Extended-spectrum β -lactamases produced by Enterobacterales in food

Contamination with extended-spectrum β -lactamase-producing Enterobacterales (**ESBL-PE**) is rare in **French** food products, occurring at a rate of 4.2%. Both organic and conventional items have similar contamination rates. The presence of ESBL-PE is confined to **meat products**; **no vegetables** showed contamination. Among meats, **poultry products** have the highest levels of ESBL-PE contamination. [IntJFoodMicrobiol](#), 7 pages. (16.01.2026).

★ Foodborne outbreaks linked to *Citrobacter* species in East China 2022–2023

This study examined *Citrobacter portucalensis* and *C. freundii* linked to foodborne diarrhea outbreaks in East **China** (2022–2023). Genomic and histological analyses revealed *C. portucalensis* carried unique **blaCMY-39** and virulence genes linked to motility, lacked several flagellar chaperones, and showed ampicillin resistance. Intestinal inflammation in infected mice underscores its emerging public health relevance. [Food Microbiol.](#), 10 pages. (12.2025).

★ Multidrug-resistant *Staphylococcus epidermidis* in raw milk

A study in Pakistan detected *Staphylococcus epidermidis* in 12.9% of raw milk samples from cattle and ewes, with 50% of isolates classified as multidrug-resistant. *S. epidermidis* in raw milk may act as a reservoir of antimicrobial-resistance genes and potentially transfer them to other species such as *Staphylococcus aureus*. Molecular testing showed that 45% of isolates carried the **mecA gene**, indicating the potential for methicillin resistance. [EurekAlert](#), 2 pages. (12.11.2025). Original Publication: [PlosOne](#).

★ *Sarcocystis* spp., and *Toxoplasma gondii* in meat products in Iran

Processed meat products were tested for *Sarcocystis* spp. and *Toxoplasma gondii*. From 160 samples of hamburgers, sausages, and jambon collected from 15 markets, 25% were positive for *Sarcocystis* spp., with higher rates in jambon. No *T. gondii* was detected. Identified species included *S. cruzi*, *S. hirsuta*, and *S. tenella*. Low genetic variation was observed, highlighting ongoing transmission in cattle and the need for prevention strategies. [BMC Research Notes](#), 10 pages. (18.11.2025).

★ HPAI A(H5N1) can remain infectious in raw milk for at least five weeks at 4°C

High pathogenic avian influenza (HPAI) A(H5N1) virus in raw milk from infected cows remains infectious for at least **five weeks at 4°C**, showing a modest 2-log decline. Heat treatment of milk from HPAI A(H5N1)-infected cows reduces virus titers to **below detectable levels (5 min at 63°C)** or by at least **4.5 log units (30 sec at 72°C)**. The study from Univ. of Wisconsin, Texas A&M and Univ. of Tokyo compared raw milk from infected cows with virus-spiked milk. Although starting titers were similar, spiked samples showed faster decay at 63°C. This suggests that virus produced in the mammary gland is more heat-stable than virus added artificially, especially at lower pasteurization temperatures. [NEnglJMed](#), 2 pages. (03.12.2025).

CHEMISTRY

★★ Lead contamination in game meat underestimated by certain methods

Bullets and other firearm projectiles can fragment on impact, a concern in hunting because **lead-based ammunition** can contaminate meat eaten by humans and wildlife. Medical X-rays are commonly used to detect such fragments in tissue and to screen donated game meat for lead. The study presents the first **synchrotron X-ray** images of rifle and shotgun wounds in wild game, compared with medical radiographs. These reveal **micro- and nanoscale lead fragments** invisible to standard radiography. The mass of these undetected fragments exceeds CDC safety thresholds for human health. [Sci Rep](#), 8 pages. (02.12.2025).

★★ PFAS in drinking water: TFA detected in 92% of samples

A recent study by the French Agency for Food, Environmental and Occupational Health & Safety (Anses) revealed that over **92% of tap water samples in France** are contaminated with **trifluoroacetic acid (TFA)**, a persistent pollutant from industrial processes and atmospheric decomposition. While regulated PFAS levels are generally within limits, the presence of TFA, which lacks a strict regulatory limit, poses a challenge due to its potential health impacts and

the high cost of its removal. The study highlights the need for increased monitoring and raises concerns about the financial burden of depollution, particularly for local authorities, as the implementation of a "polluter-pays" principle has been delayed. [anses](#), 60 pages. (03.12.2025).

★ Risks of bromoform by adding seaweed to feed for ruminants

Adding *Asparagopsis* seaweed to ruminant feed reduces methane but raises **food safety questions**. **Bromoform**, the active compound, can **transfer to milk and meat**, posing dietary exposure and **carcinogenicity risks**. There are currently no legal limits on bromoform in feed or food. Risk assessments highlight a need for tighter regulation to protect food safety and animal health. [FRAE](#), 30 pages. (11.09.2025).

★ Emerging marine biotoxins in shellfish

Assessment of UK-harvested **bivalve molluscs (shellfish)** evaluated human **health risks from emerging marine biotoxins**, including tetrodotoxin (TTX), palytoxin (PITX), brevetoxin (BTX), novel azaspiracids (AZA), domoic acid (DA) analogues, pectenotoxins (PTX), cyanobacterial toxins, and cyclic imine (CI) family toxins such as spirolide (SPX) and gymnodimine (GYM). Using a scoring system based on monitoring data, toxicity, and human case reports, the risk ranking was **TTX > PITX > Microcystin (MC) > BTX > SPX > GYM**. [COT](#), 28 pages. (01.02.2025).

★ Fishery anesthetics in aquaculture products in China

Fishery anesthetics are used in aquaculture to reduce stress during handling and transport, but their misuse can lead to residue-related food safety issues. A Chinese review notes illegal use of **diazepam** in **carp**, despite not being authorised for use in food fish. The compound shows long persistence in fish tissues, with half-lives of about 619 hours and more than 70 days needed for residues to fall below quantification limits. The review states that residues in food could result in pharmacological or toxicological effects especially in sensitive consumers. [Foods](#), 10 pages. (17.11.2025).

★ PFAS: unexpected risk posed by the ultra-short-chain compound TFA

PFOS, PFOA, and perfluorononanoic acid (PFNA) suppressed antibody production and impaired dendritic cell (DC) maturation in a concentration-dependent manner, consistent with previous in vivo and epidemiological data. Short-chain PFAS (PFHxS, PFBS, PFHxA, PFBA) showed modest to intermediate immunomodulatory activity, with subtle immunosuppressive trends in female donors. Notably, TFA reduced antibody production at levels comparable to PFOS, indicating that chain length alone is not a reliable predictor of immunotoxic potential. PTFE exhibited no suppressive effects; instead, increased antibody release was observed in female donors, suggesting possible sex-dependent immunostimulation. [Front Toxicol](#), 14 pages. (19.11.2025).

★ Tracing microplastics release from membrane filtration in drinking water

This study systematically elucidated empirical patterns of microplastics release from polymeric membranes (PVDF, PES, and PSF) used in drinking water treatment processes. Results demonstrated that microplastics counts increased under chemical exposure (KMnO₄ and NaOCl), with responses differing by material. [WaterRes](#), (15.01.2026).

★ Swiss children's products release bisphenols under normal use

Swiss scientists evaluated bisphenol migration from 162 products available in supermarket chains in Switzerland, including 16 feeding accessories and baby bottles intended for food contact. They found that bisphenols, including BPA and its analogues, migrated from a wide range of consumer products, with estimated daily intake levels exceeding the regulatory safety threshold. The results raise particular concern for bisphenol A analogues in products frequently mouthed by infants and toddlers. [FoodPackForum](#), 1 page. (21.11.2025). Original Publication: [Chemosphere](#).

★ Are mulch films releasing additives to the soil and contaminating our food?

Climate change and rising food demand have increased the use of **plastic mulch** to boost yields, but these materials can release additives such as **phthalates into soil and crops**. This two year study assessed additive transfer from conventional and biodegradable mulches to soil and strawberries. All mulch films released additives, with polypropylene and oxo-degradable polyethylene causing the highest **contamination**. Significant differences in di(2-ethylhexyl)-phthalate, dibutyl-phthalate, and diethyl-phthalate levels were observed between treatments and controls. In strawberries, only dibutyl-phthalate (up to 164.32 ± 81.58 µg/kg) and acetyl-tributyl-citrate (up to 8.37 ± 2.68 µg/kg) were detected, with low estimated noncarcinogenic risk. [FoodChem](#), 9 pages. (25.11.2025).

★ antimicrobial activity of Industrial and agricultural chemicals against human gut bacteria

A Cambridge study reveals that out of 1 076 assessed pollutants, including pesticides, fungicides and industrial chemicals, around one sixth were **inhibitory** against bacterial strains typical for the **human gut microbiome**, most of which were not previously known to have antibacterial activity. Some chemicals also **selected for antibiotic-resistant strains**, raising concerns that everyday environmental or food-related exposures may weaken antibiotic effectiveness. The researchers caution that current chemical screening programs may not sufficiently account for such secondary microbiome-related effects of pollutants. [Affidia](#), 2 pages. (03.12.2025). Original Publication: [Nat Microbiol](#).

NUTRITION

★ UPF Consumption and risk of early-onset colorectal cancer precursors among women

A recent study found that young women who frequently consume **ultra-processed foods (UPF) in the US** have a significantly increased risk of developing certain **colon polyps**, which are precursors to **colon cancer**. Researchers analyzed data from over 29,000 women and discovered that those with the highest consumption of ultra-processed foods, such as **ready-made meals, sugary drinks, and processed meats**, had a 45% higher risk of developing these polyps before the age of 50, even when accounting for other lifestyle factors. [t-online.de](#), 2 pages. (17.11.2025). Original Publication: [JAMA Oncol.](#)

★ Ultra-processed foods and human health

This three-paper Series from **The Lancet** reviews rising **global consumption of ultra-processed foods** and evidence linking them to **non-communicable diseases**. The Series argues that coordinated **policy action**—not individual behaviour change alone—is **needed**, and proposes food systems that support local producers and cultural food practices. [Lancet](#), 1 page. (18.11.2025). Original Publication: [Lancet](#), [Lancet](#), [Lancet](#). Additional Information: [Protecting children from ultra-processed foods](#), [Global action on ultra-processed foods: a health, equity, and sustainability imperative](#).

★ Child dies, siblings hospitalized after 'alkaline diet'

An Arizona couple has been charged with first-degree murder and child abuse after their 5-month-old child died and three other siblings were hospitalized due to **severe malnutrition** caused by an **extreme alkaline diet** and a distrust of medical care fueled by **online misinformation**. The parents relied on online sources that promoted the diet and discouraged medical intervention, leading to the children's health crisis. Experts highlight the dangers of misinformation in the health and wellness space, emphasizing how these extreme beliefs can isolate parents and prevent them from recognizing obvious warning signs. [USAToday](#), 2 pages. (09.12.2025).

ALLERGY

★★ First fatal case of tick-induced meat allergy reported

A case report from US describes the **first fatal reaction** to Alpha-gal syndrome, the tick-borne allergy to mammalian meat. The patient developed a severe delayed allergic reaction after eating beef, consistent with anaphylactic shock, and was found to have very high α -gal-specific IgE. Because symptoms often occur **3–5 hours after ingestion**, the condition is frequently misdiagnosed and represents **non-traditional food allergen** linked to tick exposure. [EurekAlert](#), 2 pages. (13.11.2025). Original Publication: [J Allergy Clin Immunol](#), [IlFatto](#).

★ Non-coeliac gluten sensitivity explained

The term **non-coeliac gluten sensitivity (NCGS)** is used to describe a heterogeneous group of individuals reporting intestinal and extraintestinal symptoms related to gluten or wheat ingestion, in the absence of coeliac disease or wheat allergy. However, whether NCGS represents a distinct clinical entity remains unclear. Meta-analyses indicate that only a small subgroup of people show gluten-specific responses in controlled trials, with evidence suggesting that **fermentable carbohydrates and nocebo effects** contribute significantly to symptoms. [Lancet](#), (22.10.2025).

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Send your questions and suggestions to the following e-mail address: seismo@blv.admin.ch

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★★★★ very important info ★★ important info ★ interesting info

MICROBIOLOGY

★★★★ Denmark solves *Cryptosporidium* outbreak

A *Cryptosporidium* outbreak in **Denmark** has been traced to a type of **produce** from **Italy**. During June and July, the Statens Serum Institut (SSI) registered 11 cases of *Cryptosporidium parvum* Ilzeta. The SSI, the Danish Veterinary and Food Administration (Fødevarestyrelsen), and National Food Institute investigated the outbreak and found that several patients had eaten in different canteens run by the same catering company. **Flat-leaf parsley** from **Italy** was identified as a possible source of infection. Six men and five women were ill. Patients were between 22 and 60 years old with a median age of 31. [FSN](#), 2 pages. (03.10.2025).

★★ *Bacillus thuringiensis* in fresh vegetables and fruits

Bacillus thuringiensis (Bt) biopesticides are commonly used as alternatives to synthetic pesticides. Recent **concerns about food safety** call for better characterization of the potential risk associated with Bt and thus an estimation of exposure to this spore-forming bacterium through food. To evaluate potential exposure through food, Bt use in **France** was inventoried, and 159 organic fruit and vegetable samples were analyzed. Bt was detected in **50% of samples** (10^1 – 9.6×10^4 CFU/g). Genomic markers identified 90% of authorized Bt strains. **Washing tests showed limited removal of spores**, indicating their persistence on produce surfaces. [IntJFoodMicrobiol](#), 10 pages. (06.10.2025). Additional Information: [see also: Biggel et. al \(2022\)](#).

★★ Urinary tract infections caused by contaminated meat

A study found nearly 20% of **Urinary tract infections** (UTIs) in Southern California stem from *E. coli* strains linked to contaminated meat, mainly **chicken** and **turkey**. In high-poverty areas, 21.5% of cases trace to animal sources. Women and older men face higher risk. The findings frame **UTIs as a food-safety** and social-health issue, urging safer meat handling and more research on social determinants. [Independent](#), 2 pages. (24.10.2025). Original Publication: [mBio](#). Additional Information: [Food Safety News](#).

★★ Mature *Listeria monocytogenes* biofilms exhibit reduced susceptibility to sanitizers

A UK study evaluated the efficacy of **common sanitising methods** used in the **fresh food supply** chain, finding that *Listeria* biofilms are highly tolerant of standard sanitation protocols. High concentrations of **chlorine** (up to 300 ppm) and **peracetic acid** (PAA, up to 500 ppm) were ineffective against mature biofilms. The study results highlight the

importance of regular cleaning procedures in preventing the formation of initial biofilms. [FoodSafetyMag](#), 3 pages. (30.10.2025). Original Publication: [JFoodProt](#).

★ Foodborne pathogens and antibiotic resistance in Greek aquaculture

This study tracked contamination across **Greece's fish production chain**—from farming to packaging—by sampling **water, surfaces, feed, and fish**. The most contaminated sites were pre-fattening tanks and processing areas like transport boxes and concrete floors. Molecular analysis revealed pathogens such as **Enterococcus, Serratia, Morganella, and Klebsiella, many resistant to multiple antibiotics including Vancomycin and Penicillin G**. These findings highlight the need for early detection and control strategies to reduce antibiotic-resistant bacteria spread and improve the safety of aquaculture products. [Food Microbiol.](#), 20 pages. (31.10.2025). Original Publication: [Food Microbiol.](#)

★ Natural, preservative-free and minimally processed products create new food safety risks

Rising consumer demand for healthy, sustainable diets creates new food safety challenges. Trends like **natural, preservative-free, low-sugar, minimally processed, plant-based, and fermented foods** are gaining popularity, especially in high-income countries, but they can introduce unintended risks. The article stresses how regulators face tough **trade-offs between safety and sustainability** and the need for science-based approaches and effective communication to balance these goals. Despite expecting safe, sustainable food, most consumers won't pay more, complicating efforts for the food industry to meet evolving expectations. [Trends Food Sci](#), (03.11.2025).

★ Genomic surveillance gaps in poultry-derived *Campylobacter jejuni*

A U.S. study of retail chicken revealed **gaps in the genomic surveillance of *Campylobacter jejuni***. The recovered strains did not match any of the known genotypes associated with poultry, suggesting that current databases do not fully capture the genetic diversity present in poultry environments. Standard detection methods such as direct plating and viability qPCR also **failed to detect low concentrations**. These results imply that the current genomic and detection systems may underestimate the presence and diversity of *Campylobacter* in the poultry supply chain. [FoodSafetyMag](#), 2 pages. (17.10.2025). Original Publication: [JFoodProt](#).

CHEMISTRY

★★★★ Gluten migration from biodegradable tableware

The increasing use of **biodegradable food-contact materials (FCM)** may pose a risk for individuals with gluten-related disorders. A **Spanish** study examined eight biodegradable tableware items made from **wheat and other cereal derivatives**. Using monoclonal antibody-based assays, the researchers found that one wheat-based dish **transferred gluten to gluten-free foods** at levels exceeding the 20 mg/kg limit for gluten-free labelling. Transfer increased with heat, liquid foods, and longer contact times. [J Agric Food Chem](#), 10 pages. (22.10.2025).

★★★ Bubble tea - different hazards

Bubble tea, a Taiwanese drink made from tea, milk, sugar, and tapioca pearls, has gained global popularity. However, a Consumer Reports study found high **lead** levels in some US bubble tea products. Bubble tea's tapioca pearls pose risks beyond lead contamination. Their starchy nature can cause **gastroparesis** or **intestinal blockage**, leading to nausea, vomiting, and abdominal pain, especially in those with slow digestion. Excess intake may also cause **constipation** from guar gum and **kidney stones** from oxalate buildup. Pearls present a **choking hazard** for children and adults, with reported fatal cases. [Conversation](#), 3 pages. (24.10.2025). Original Publication: [CR](#).

★★★ Climate change, rice and arsenic: a looming crisis

Rising atmospheric CO₂ and temperatures increase **arsenic accumulation in rice**. In a decade-long study at four locations in China, 28 rice varieties were grown under elevated CO₂ and temperature (alone and combined). The study found that when CO₂ and temperature rose together, the **increase in inorganic arsenic** in rice grain was synergistic. Modeling suggested that, under climate-change scenarios, arsenic exposure and related cancer risks could rise sharply, potentially up to 13.4 million additional cases in China. [CG Khabar](#), 5 pages. (06.11.2025). Original Publication: [Lancet Planet. Health.](#)

★★★ EFSA: evidence of microplastics released from food contact materials

EFSA's **review** confirms that **microplastics** can be released from **food contact materials (FCM)** during use, mainly due to **mechanical stress** such as abrasion or friction, or from materials with fibrous structures. Data on nanoplastics remain almost entirely absent, and current analytical methods lack standardization. Consequently, there is still no sufficient basis to estimate consumer exposure to micro- and nanoplastics from FCM during their use. [Affidia](#), 1 page. (06.11.2025). Original Publication: [EFSA](#).

★ Domestic water hardness and cardiovascular events

A cohort study of over 324,000 UK Biobank participants investigated the association between **domestic water hardness** (DWH) and **cardiovascular disease** (CVD). DWH was linked to cardiovascular health across nine CVD outcomes, with **higher magnesium levels** and **moderate calcium carbonate** and **calcium** concentrations associated with **reduced risk**. In contrast, **combined DWH exposure** was linked to an **increased risk of chronic rheumatic heart disease**. [AJCN](#), 36 pages. (13.10.2025).

★ Protein powders and shakes contain high levels of lead

Consumer Reports (CR) in the **U.S.** found elevated **lead** levels in nearly all 23 tested **protein supplements**—including dairy, beef, and plant-based powders and ready-to-drink shakes—with several posing serious safety concerns. Two products contained 1,200–1,600% of CR's lead limit (0.5 µg/day), while two others had 400–600%. On average, **plant-based powders** contained nine times more lead than dairy-based products. [CR](#), 4 pages. (14.10.2025). Additional Information: [CBS News](#), [Independent](#), [WholeFoods](#).

★ Maternal aspartame exposure

This study investigated the effects of maternal **aspartame exposure** on **neonatal** lung health using a multiomics approach. The research found that aspartame exposure **altered neonatal pulmonary metabolic profiles**, particularly affecting purine metabolism and the pentose phosphate pathway, and induced oxidative stress and inflammation. These findings suggest that early-life aspartame exposure may disrupt redox-sensitive metabolic networks and inflammatory responses in the developing lung, highlighting the importance of considering artificial sweeteners in developmental health. [J Agric Food Chem](#), 13 pages. (13.10.2025).

★ Food safety in enteral nutrition formulas

This study analyzed 23 **enteral nutrition formulas** (ENFs) for adults in **Türkiye**, identifying 21 contaminants including **polychlorinated biphenyls** (PCBs), **phenols**, and **phthalate esters** (PAEs). Detected concentrations varied, with some bisphenol A exposure levels exceeding tolerable daily intake. [FoodChem](#), (25.12.2025).

★ Airborne mercury is contaminating African food crops

A new study published in *Biogeosciences* reveals that **mercury** from artisanal and small-scale gold mining contaminates food crops **through the air**, not the soil as previously thought. Researchers found significantly higher mercury concentrations in **crops** near a mining site in Nigeria, with plants absorbing the neurotoxin directly from the **atmosphere**. This poses a threat to food security and human health, especially in communities reliant on local agriculture. [EurekAlert](#), 3 pages. (20.10.2025). Original Publication: [Biogeosciences](#).

★ Review on micro- and nanoplastic release from food contact materials

A recent structured review from EFSA analyzed 1,711 studies (2015–Jan 2025) on **micro- and nanoplastic** (MNP) release from **food contact materials** (FCM), selecting 122 for data extraction plus eight contextual papers. Evidence confirms that FCM can release microplastics via abrasion or friction, yet nanoplastic data are scarce. Use of aqueous simulants dominates, with few real food tests. Methodological flaws and analytical uncertainties limit quantification of MNP release and hinder exposure estimation [EFSA](#), 53 pages. (21.10.2025).

★ Homemade water kefir can make you positive on breath alcohol testing

This study investigated the impact of **homemade water kefir** consumption on breath alcohol test results. Water kefir was prepared under different conditions, analyzed for chemical and microbiological properties, and then used in breath alcohol tests. Study participants who consumed 300 mL of water kefir showed **positive breath alcohol test results**, peaking at 30 minutes post-ingestion and becoming negative after 75 minutes. The findings suggest that water kefir intake can lead to positive breath alcohol tests, depending on the volume and ethanol content of the kefir consumed. [Ferm. Foods](#), 8 pages. (31.12.2025).

★ Combined cadmium and nanoplastic exposure disrupt testicular development

Nanoplastics (NPs) can carry pollutants like heavy metals such as cadmium. In a study from **China**, pregnant rats exposed to both **cadmium and polystyrene NPs** had male offspring with testicular dysplasia. The combined exposure activated stress pathways in offspring mitochondria, causing cell death and **abnormal testicular development**. The findings show that nanoplastics and heavy metals together could **disrupt reproductive health**. [J Agric Food Chem](#), 12 pages. (24.10.2025).

NUTRITION

★★★ Plant-based diet quality and cardiovascular disease risk

A **French** cohort study of over **63,000 adults** examined **how plant-based diet quality and food processing level affect cardiovascular disease (CVD) risk**. Participants with the **highest adherence to a healthy, unprocessed plant-based diet** had up to **44% lower coronary heart disease risk**, while those with the **highest adherence to an unhealthy, ultra-processed plant-based diet** had up to **46% higher risk**. The findings highlight the importance of considering both **nutritional quality and processing degree** when **assessing plant-based diets and CVD risk**. [EurekAlert](#), 2 pages. (15.10.2025). Original Publication: [Lancet](#).

★ Non-coeliac gluten and wheat sensitivity

About **one in ten people worldwide** self-report **non-coeliac gluten and wheat sensitivity (NCGWS)** despite lacking a diagnosis of Coeliac disease or wheat allergy. They often experience **abdominal pain, bloating, fatigue, and headache**, with a strong association to **irritable bowel syndrome (IBS)**. The findings suggest positioning NCGWS within the spectrum of disorders of gut–brain interaction once organic pathologies have been excluded. [Infosalus](#), 1 page. (30.10.2025). Original Publication: [BMJ](#).

★ Exposure to fluoride from follow-on infant milk

A **Spanish** study determined the **fluoride content** in 46 samples of **follow-on milk** from various brands and types (starter, follow-on, and hydrolyzed formulas). The dietary intake assessment revealed that certain hydrolyzed formulas could pose health risks by providing up to **94.1% of the UL (upper level)**. The study concluded that consumers should be aware of the fluoride content in the water used to prepare bottles because it can increase total fluoride intake, which poses a risk to the health of infants. [Foods](#), 10 pages. (30.10.2025).

★ Heat-induced DNA damage in foods and its potential health implications

High-temperature cooking can damage food DNA and may incorporate into host DNA with genotoxic or mutagenic effects. A study of 21 plant- and meat-based foods found that cooking increased oxidative and deaminated DNA damage. **Experiments with human cell lines** revealed that these damaged nucleosides **induced cytotoxicity and DNA double-strand breaks**. [J Agric Food Chem](#), 12 pages. (02.11.2025).

ALLERGY

★★★ Health risks from lupin seeds in food

The **German** Federal Institute for Risk Assessment (BfR) analyzed over 70 lupin-based products and found **high levels of toxic alkaloids**, with some **lupin flours** containing up to 2,677 mg/kg, **exceeding safety limits** used in other countries. The BfR recommends that the EU establish harmonized safety levels, improve debittering processes, and strengthen monitoring of lupin products, as there are currently **no legal limits in Europe**, despite the potential for toxic and allergic reactions, especially for those with **peanut allergies**. [ILS](#), 3 pages. (17.10.2025). Original Publication: [BfR](#).

FRAUD / DECEPTION

★ Paracetamol found in food

Slovenian authorities found **paracetamol** in unprocessed **pickles** in acid imported **from India** during a routine food inspection. The Food Safety, Veterinary and Plant Protection Administration (UVHVVR) said the reason for its presence and any technological role in food production are unclear. Experts from other EU countries had no data on such use. Tests showed a paracetamol concentration of 28.6 mg/kg. [FSN](#), 1 page. (06.11.2025).

★ Toxic oleander in supplements

The FDA and CDC have been investigating **supplements** in the **US** that have tested positive for poisonous **yellow oleander (Cascabela thevetia)**. As of Nov. 3, the Food and Drug Administration has identified 26 products with the substance, which is sometimes identified as tejocote root, Crataegus mexicana, Raiz de Tejocote, and Mexican Hawthorn. Toxic yellow oleander can cause neurologic, gastrointestinal and cardiovascular adverse health effects that may be severe, or even fatal. [FSN](#), 1 page. (03.11.2025). Original Publication: [FDA](#). Additional Information: [CDC Report \(2023\)](#).

Close up

New information has emerged from [the FSVO's early detection system](#) for food safety:

- Anton Lavrinienko, Anna Greppi, Salome Häcki, Dariya Paramonova, Nicholas A. Bokulich, *Impacts of food additive sweeteners and emulsifiers on the gut microbiome: research trends and future directions*, Trends in Food Science & Technology, Volume 166, 2025, 105370, ISSN 0924-2244, <https://doi.org/10.1016/j.tifs.2025.105370>

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SEISMO INFO

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EARLY DETECTION FOR FOOD SAFETY – HIGHLIGHTS

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MICROBIOLOGY

★★★ H5N1 influenza virus stability in raw milk and cheese

H5N1 avian influenza viruses have recently been detected in dairy cattle, prompting evaluation of their persistence in **raw-milk cheeses** produced at pH 6.6, 5.8, and 5.0. Infectious **viruses persisted** through cheese making and up to 120 days of aging at pH 6.6 and 5.8 but not at 5.0. **Ferrets** exposed to contaminated milk became infected, whereas those given cheese did not. These results characterize **pH-dependent H5N1 survival in raw-milk cheeses**. [Nat. Med.](#), 21 pages. (08.10.2025). Additional Information: [see also: Lenz-Ajuh et. al 2025](#).

★★★ ESBL-*Klebsiella pneumoniae* in humans and food, Switzerland, 2018–2019

A cluster of genetically related extended-spectrum β -lactamase-producing *Klebsiella pneumoniae* sequence type 14 was identified in human **clinical samples** and in **an alfalfa-cress sample** collected during systematic food sampling in Basel, Switzerland. The findings indicate that food may act as a reservoir for extended-spectrum β -lactamase-producing Enterobacterales. [Emerg Infect Dis](#), 4 pages. (10.2025).

★★★ ESBL *Escherichia coli* in Swiss and imported retail chicken meat

The occurrence of extended-spectrum β -lactamase-producing (ESBL) *Enterobacterales* in **retail chicken meat** poses a risk for transmission of resistant bacteria or genes to humans. In this study, 200 **Swiss** and imported chicken samples were screened, revealing 9% positive for ESBL-producing *E. coli*, more frequently in imported meat. Most isolates showed ciprofloxacin co-resistance, diverse sequence types, and plasmid- or chromosome-encoded *bla*ESBL genes, highlighting **chicken as a vehicle for multidrug-resistant strains**. [J Glob Antimicrob Resist.](#), 8 pages. (15.05.2025).

★★★ *Burkholderia gladioli* pv. *cocovenenans* in mushroom products

Chinese scientists have investigated the presence of a rare but dangerous bacteria in mushroom products. *Burkholderia gladioli* pathovar *cocovenenans* can cause lethal poisoning. Most cases have been reported in **China**, primarily from **fermented cereal products**. Symptoms include abdominal pain, diarrhea, vomiting, weakness, and palpitations. From 2005 to 2020, 30 foodborne outbreaks were reported, resulting in 85 deaths. *Burkholderia gladioli* pathovar *cocovenenans* causes poisoning by producing **bongkrekic acid**, which cannot be destroyed by cooking. [FSN](#), 2 pages. (24.09.2025). Original Publication: [CCDC](#).

★★★ Hepatitis A and E viruses in ready-to-eat foods: a meta-analysis

Hepatitis A (HAV) and E (HEV) in **ready-to-eat foods** (RTEFs) pose public health risks. 2089 RTEFs showed HEV prevalence of 22.7% in **pork** and 0.7% in **vegetable-based** RTEFs; HAV was 1.7% in **vegetables** and 0% in **meat**. Findings highlight a notable risk from pork RTEFs and the need for effective decontamination, while vegetable-based RTEFs pose minimal but non-negligible risk. [Food Res. Int.](#), 10 pages. (12.2025).

★★★ *Listeria* outbreak at Stockholm restaurant

A luxury restaurant in **Stockholm** was closed after over 130 people developed vomiting and fever, with four cases of sepsis. Authorities suspect *Listeria monocytogenes* as the cause. The Stockholm Environmental Administration found high *Listeria* levels in six **truffle** samples delivered and frozen in July. The outbreak is unusual, as Sweden typically reports only about 100 *Listeria* cases annually. [8sidor](#), 2 pages. (07.10.2025). Original Publication: [SD](#), [FSN](#). Additional Information: [Truffel samples suspected](#).

★★★ *Listeria monocytogenes* isolated from retail enoki mushrooms

This study sequenced 144 *Listeria monocytogenes* strains from retail **enoki mushrooms** in **China** (2021). Most belonged to lineages I and II, with dominant clonal complexes CC8, CC87, CC14, and CC5, matching strains from clinical cases. Many were **hypervirulent** or virulent, and single nucleotide polymorphism (SNP) analysis revealed close links to clinical strains, underscoring enoki mushrooms as a **potential reservoir**. [IntJFoodMicrobiol](#), 10 pages. (02.01.2026).

★★★ *Cyclospora cayetanensis*: an emergent public health threat

This article discusses *Cyclospora cayetanensis*, an **emerging foodborne parasite** posing a public health threat, particularly in the **U.S.**, where outbreaks have increased. The article highlights the challenges in tracing the source of outbreaks due to the parasite's lifecycle, the difficulty in identifying it, and the complex supply chains of implicated foods like **fresh produce**. [FoodSafetyMag](#), 8 pages. (08.10.2025).

★ Antibiotic resistance of *Shewanella* Species in oysters and seawater

Hemolytic *Shewanella* spp. are opportunistic pathogens and seafood-associated bacteria of concern due to **emerging antibiotic resistance**. This study evaluated 166 isolates from oysters (n=107) and seawater (n=59) collected in the Mid-Atlantic region (2019–2021) against 21 antibiotics. Resistance was detected in 16.3% of oyster and 18.9% of seawater isolates, with Ertapenem showing the only significant difference between hemolytic groups. Species-specific patterns were observed, with *S. khirikhana*, *S. algae*, *S. marisflavi*, and *S. indica* exhibiting the broadest resistance. [JFoodProt](#), 7 pages. (24.09.2025).

★ Bacterial contamination and antibiotic resistance in infant and toddler foods (ITF)

This study analyzed 450 **ITF** samples purchased from local **Chinese** markets using culture-based methods and Whole Genome Sequencing (**WGS**), revealing bacterial contaminants such as *Bacillus*, *Staphylococcus*, and *Enterococcus*. WGS further identified six novel species and detailed their resistome and virulome profiles. The detection of **antibiotic resistance genes**, including beta-lactam resistance, underscores potential health risks. [J. Future Foods](#), 37 pages. (14.09.2025).

★ *Vibrio parahaemolyticus* transfer in fish under kitchen conditions

Cross-contamination is a key pathway for *Vibrio parahaemolyticus* to contaminate cooked seafood and utensils. This study used mathematical modeling to assess how cutting board and knife materials, contamination levels, and fish species affect transfer rates and infection risk. **Wooden boards** (53.98%) and **ceramic knives** (42.93%) showed the highest transfer, which increased with higher bacterial loads and was greater on salmon than pangasius. Risk assessment identified the **wooden board–ceramic knife combination as highest risk**, while **stainless board–stainless knife** posed the lowest. [J. Future Foods](#), 10 pages. (17.09.2025).

★ *Blastocystis* sp. in Mediterranean mussels

Blastocystis sp., a zoonotic intestinal protist, was detected in 10.3% of **Mediterranean mussels** (*Mytilus galloprovincialis*) in southern **Italy**, where raw mussel consumption is common, potentially posing a public health risk. The study highlights the parasite's presence in mussels, emphasizing the need for awareness due to the risk of foodborne infections. [FoodContr](#), 10 pages. (16.09.2025).

★ Foodborne transmission of Chagas disease

Chagas disease can spread when **food** is contaminated with **feces** from **kissing bugs** (*Triatominae*). While the role of **foodborne transmission** in the U.S. remains unclear, experts caution about its potential risk. In parts of Latin America, **oral transmission** has been linked to **fruit products** tainted with *T. cruzi* from insects living in trees. [MinPost](#), 1 page. (22.09.2025). Original Publication: [Emerg Infect Dis](#).

★ Antimicrobial resistant *Empedobacter* from fresh meat and meat preparations

Empedobacter, an opportunistic pathogen, shows frequent **resistance to multiple antibiotics**, including last-resort drugs. This study analyzed 62 carbapenem-resistant isolates from retail **meat**, testing susceptibility to 15 antibiotics and sequencing 24 genomes. Results revealed **high multidrug resistance** (61.3%) and clinically relevant antimicrobial resistance genes (ARGs). These findings highlight *Empedobacter*'s role as a **potential reservoir of ARGs in the food chain**. [Curr. Res. Food Sci.](#), 32 pages. (26.09.2025).

CHEMISTRY

★★ Demonstrating nanoplastic accumulation in radishes

Plymouth University researchers demonstrated for the first time that **nanoplastics** can infiltrate, move through plant tissues and accumulate in **edible crops**. In a **hydroponic experiment**, radishes had their **non-fleshy roots** exposed to a **radiolabeled polystyrene nanoparticle solution**, resulting in about **5%** of the particles **entering the roots** after five days, with **25%** reaching the **edible root tissue** and **10%** accumulating in the **leaves**. [EurekAlert](#), 2 pages. (17.09.2025). Original Publication: [Environ. Res.](#)

★★ Childhood health risks from plastic exposure

An **expert review** on the **role of plastics in the early origins of disease** highlights that childhood exposure to plastic-related chemicals, including **phthalates**, **bisphenols**, and **per- and polyfluoroalkyl substances (PFAS)**, poses serious **long-term risks** such as **chronic illnesses**, **hormone disruption**, and **developmental disorders**. [EurekAlert](#), 3 pages. (21.09.2025). Original Publication: [Lancet](#).

★ PFAS in water and fish

A new report by the **European Environmental Bureau** reveals widespread **PFAS contamination in European waters and fish**. The report highlights the health risks associated with PFAS exposure, the limitations of current monitoring, and the need for urgent action, including stricter standards, extended monitoring, and the implementation of the "polluter pays" principle to protect ecosystems, seafood safety, and public health. [ILS](#), 3 pages. (12.09.2025). Original Publication: [EEB](#). Additional Information: [Press release EEB](#).

★ Trifluoroacetic Acid (TFA): toxic for reproduction

European food and chemical safety agencies **EFSA** and **ECHA** have confirmed that **trifluoroacetic acid (TFA)** is a reprotoxic substance, harmful to fetal development, and that its **toxic effects are more extensive than previously understood**, potentially impacting other organs beyond the liver. [Générations Futures](#), 2 pages. (24.09.2025). Additional Information: [CLH report - Proposal for Harmonised Classification and Labelling: Trifluoroacetic Acid](#).

★ Lead in organic cinnamon product

The **U.S. FDA** has issued a warning after detecting elevated **lead** levels in an **organic cinnamon product**, which may pose health risks, especially to children. This warning follows increased testing prompted by lead contamination issues in **cinnamon applesauce pouches** in 2023, leading to warnings on a dozen cinnamon products. [FSN](#), 1 page. (12.09.2025). Original Publication: [FDA](#).

★ Nanoplastics disrupt brain energy metabolism

Polystyrene nanoplastics (PS-NPs), which are formed when larger plastics degrade, have been shown to interfere with **brain energy production** in animal models. This disruption is driven by mitochondrial mechanisms and may also interfere with **synaptic plasticity**, which is necessary for learning and memory. These findings suggest that chronic exposure to nanoplastics could contribute to the development of neurological diseases and the ageing process. [EurekAlert](#), 2 pages. (15.09.2025). Original Publication: [J. Hazard. Mater.](#)

★ Risks of microplastics and nanoplastics in food

This **review article** investigates the exposure pathways, sources, and health risks associated with **microplastics** and **nanoplastics** (MPs and NPs) in **infants** aged 0-12 months. The study reveals that infants are primarily exposed through inhalation and **ingestion**, with dietary sources including **plastic packaging**, **food preparation**, and **food products**. The ingestion of these particles poses potential health risks, including physical, chemical, and biological effects, potentially impacting infant development. [Rev. Environ. Contam. Toxicol.](#), 33 pages. (02.10.2025).

★ Effects of microplastics on bone health

A **review** of 62 scientific articles, including in vitro and animal studies on bone growth and structure, examined the effects of **microplastics** on **bone health**. The results show that microplastics can **impair bone marrow stem cells**, promote **osteoclast activity**, accelerate **cell aging**, trigger **inflammation**, and **disrupt bone microstructure** and **metabolism**. [EurekAlert](#), 2 pages. (18.09.2025). Original Publication: [Osteoporos Int](#).

★ Acrylamide levels in rice and rice products

Acrylamide, a potential carcinogen formed in high-temperature cooking, is a global health concern. This review examines the presence of **acrylamide in rice and rice-based products**, to assess their contribution to dietary acrylamide exposure. While rice generally shows lower to moderate acrylamide levels compared to other cereals, limited and inconsistent data hinder definitive conclusions about factors influencing acrylamide formation in rice. [Food Chem. X.](#), 12 pages. (10.2025).

★ Heterocyclic aromatic amines in plant-based milk substitutes

For the first time, researchers analyzed **heterocyclic aromatic amines** (HAAs)—mutagenic and potentially carcinogenic compounds—in plant-based milks. They developed a method to quantify ten HAAs in almond, soy, cashew, and peanut milks under different heat treatments and sugar additions. Health risk assessments showed most exposures were below concern (ILCR, incremental lifetime cancer risk $<10^{-4}$), though frequent consumption of heated or sugared beverages could pose moderate risk (ILCR $\approx 10^{-5}$). [Foods](#), 24 pages. (23.09.2025).

★ Colchicum poisoning on a Swiss dairy farm: milk safety insight

Colchicine poisoning in livestock poses a serious **milk safety risk**, especially where *Colchicum autumnale* grows. On a Swiss organic dairy farm, Brown Swiss cattle consumed contaminated forage, causing severe illness and reduced milk output. Milk deliveries were halted, and testing confirmed colchicine presence two weeks later. This case highlights the need for monitoring toxic plants in feed to protect milk safety. [JFS](#), 7 pages. (03.09.2025).

NUTRITION

★★★ Matcha and iron deficiency

Matcha, a popular drink high in antioxidants, can **hinder iron absorption** due to its catechins, potentially leading to iron deficiency, especially in those who consume plant-based foods. Individuals at higher risk include **vegans, vegetarians, pregnant women**, and those with existing iron deficiencies. However, the effects can be mitigated by consuming matcha away from iron-rich meals or supplements, and by pairing plant-based iron sources with vitamin C. [sky news](#), 1 page. (23.09.2025). Additional Information: [foods](#), [Helyion](#).

★ Dietary preferences and childhood asthma

Asthma, a chronic condition marked by **airway inflammation**, has been linked to **dietary habits**, yet the specific foods associated with **childhood asthma** remain unclear. **A cross-sectional study of 8,412 first-grade children in Shanghai** investigated these associations. Children with a preference for **pickled and smoked foods** showed a higher risk of asthma, with **girls who favored fried foods** exhibiting an especially **elevated risk**. [EurekAlert](#), 2 pages. (30.09.2025). Original Publication: [Pediatr Investig](#).

ALLERGY

★★★ Pea protein - an emerging allergen?

Experts warn of **rising severe allergic reactions**, including anaphylaxis, linked to the **growing use of pea protein** in processed foods. Allergy UK reports increasing pea allergies, potentially tied to its presence in **meat alternatives, snacks, and supplements**. A review identified pea and lentil allergies as emerging, with some fatal cases. The Food Standards Agency UK is assessing whether peas should be classified as an allergen due to cross-reactivity with peanuts, lentils, and chickpeas. [WalesOnline](#), 3 pages. (28.09.2025). Original Publication: [Rev. Fr. Allergol](#). Additional Information: [Question for Department for Environment, Food and Rural Affairs 2024](#).

★ Trends in seafood-induced anaphylaxis in Europe

A **European Anaphylaxis Registry** analysis (2007–2022) found 462 **seafood-induced cases**. **Shellfish**, especially **shrimp**, caused most reactions in **adults**, with the highest rates reported in **Italy** and **Spain**. **Fish** reactions were more common in **children**, triggered by **cod, salmon, or tuna**. **Shellfish** reactions often involved **large portions** or other **health cofactors**, while **fish** reactions occurred with **small amounts**. Shellfish-induced anaphylaxis is rising, possibly due to **higher consumption** and **growing rate of food allergies**. [FoodSafetyMag](#), 2 pages. (18.09.2025). Original Publication: [Allergy](#).

★★★ Fraudulent practices in commercially available cinnamon

A study by the **Joint Research Centre (JRC)** on **EU cinnamon fraud** used screening methods to detect the substitution of **Ceylon cinnamon** with cassia by analysing commercial samples. The study found that many samples were **non-compliant or suspicious**. Issues detected included high levels of **lead** and **camphor**, as well as the presence of **non-cinnamon DNA**, emphasising the risk of adulteration and regulatory violations. [EU COM](#), 50 pages. (2025).

★★★ Opson reveals unprecedented, expired product diversion

Operation Opson XIV, coordinated by Europol, targeted **counterfeit** and **low-quality food and beverages**, revealing a trend of **reintroducing expired goods** into the supply chain. National authorities seized products such as **fruits, vegetables, poultry, meat products, and seafood**. The list also covers **confectionery, fats and oils**, with a focus on **olive oil**, as well as **food supplements and additives**. Authorities seized 12,700 tons of food and 1.4 million liters of drinks worth €95 million, reporting 631 individuals and issuing 101 arrest warrants across multiple product categories. [FSN](#), 2 pages. (07.10.2025). Original Publication: [Europol](#).

Close up

New information concerning FSVO's early detection system for food safety:

- [Signal Report: Microdosing \(PDF, 320 kB, 22.09.2025\)](#)
- [Signal Report: Probiotika \(PDF, 281 kB, 22.09.2025\)](#)
- [Signal Report: Staphylococcus argenteus \(PDF, 244 kB, 22.09.2025\)](#)
- [Signal Report: Bacillus cytotoxicus \(PDF, 262 kB, 22.09.2025\)](#)

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MICROBIOLOGY

★★★★ Indoor farming and food safety

Indoor farming, also known as controlled environment agriculture (CEA), is becoming increasingly popular. The Food and Agriculture Organization (FAO) has published the first review of food safety hazards in indoor farming. The report highlights that **pathogens can spread through reused irrigation water** and that **pathogens may survive in the environment longer in stable indoor conditions** than outdoors. There are also **chemical risks** from plastics or metal parts in equipment, and the humid, water-based systems used in CEA resemble those used for sprout production, which has been linked to **outbreaks caused by contaminated seeds**. [FoodSafetyMag](#), 2 pages. (27.08.2025). Original Publication: [FAO](#).

★★★ *Listeria monocytogenes* cross-contamination dynamics

Listeria monocytogenes contamination often originates from **multi-species biofilms** in **food processing environments**. This study used stochastic modelling to compare **cross-contamination dynamics** and growth of *L. monocytogenes* from multi- and single-species biofilms on **cold-smoked salmon**, revealing higher transfer rates and growth from multi-species biofilms. The results underscore the significant food safety risks posed by multi-species biofilms and the need for improved contamination control in ready-to-eat foods. [npj Sci Food](#), 11 pages. (08.08.2025).

★★★ Antibiotic resistant bacteria from Swiss ready-to-eat meat products

A Swiss study examined **804 ready-to-eat meat products from butcheries**, identifying **177 antibiotic-resistant bacteria**, most of which were **multidrug-resistant**. Detected pathogens included **third-generation cephalosporin-resistant *Enterobacterales***, **vancomycin-resistant *Enterococci***, and **methicillin-resistant *Staphylococcus aureus***. Whole genome sequencing revealed **164 resistance genes** across 25 classes, along with **metal-resistance genes**, suggesting possible **co-selection pressures**. [FrontMicr](#), 1 page. (12.08.2025).

★★★ Extensively drug-resistant (XDR) *Salmonella* Kentucky in chicken

Extensively drug-resistant (XDR) pathogens are foodborne bacteria resistant to nearly all antimicrobial classes. A recent study of retail chicken meat in **Shanghai, China**, detected an XDR *Salmonella* Kentucky strain carrying the resistance genes ***cf***, ***mcr-1***, and a ***tet(A)*** variant. This isolate showed resistance to **21 antibiotics**, including last-

resort drugs such as colistin and tigecycline. The study highlights that the emergence of such pathogens in the food chain poses a food safety concern. [Foods](#), 15 pages. (28.08.2025).

★★★ Foodborne pathogens on frozen berries in Switzerland

Frozen berries are widely consumed for their health benefits, yet their role in transmitting bacterial pathogens and antimicrobial-resistant bacteria is not well understood. In an analysis of 100 frozen berry samples from **Swiss retailers**, *Bacillus cereus* group members were detected in 12% and ESBL-producing **Enterobacterales** in 2%, while *Salmonella* spp., STEC, and *Listeria monocytogenes* were absent. [FSN](#), 2 pages. (27.08.2025). Original Publication: [JFoodProt](#).

★★★ Influenza A virus (IAV) and the gastrointestinal tract

Influenza A virus (IAV) can cause both respiratory and gastrointestinal (GI) symptoms, though its ability to infect and replicate in GI tissues is not fully understood. Recent concerns, including the A(H5N1) IAV outbreak in U.S. dairy cattle, highlight **potential risks of human exposure** through consumption of contaminated materials such as **milk**. Evidence from epidemiologic and laboratory studies suggests that gastric **exposure** may serve as a non-respiratory route for A(H5N1) IAV infection in mammals, with viral detection possible in intestinal tissues. [CIDRAP](#), 1 page. (09.09.2025). Original Publication: [CDC](#), [mBio](#).

★ Resistant and virulent *Klebsiella* on foods

This study investigated the presence of *Klebsiella* species in various food samples, revealing a diverse population including *K. pneumoniae*, with some isolates carrying critical **antimicrobial resistance genes and virulence factors** typically found in clinical settings. The analysis of 570 *Klebsiella* isolates from 361 food samples identified eleven unique species, with food-derived genomes intermingling with those from human clinical infections, highlighting the potential for **foodborne *Klebsiella*** to pose a risk to human health. [Food Microbiol.](#), 32 pages. (12.08.2025).

★ Emergence of carbapenem-resistant *Salmonella* Mbandaka

Salmonella enterica subsp. *enterica* serovar Mbandaka (**S. Mbandaka**) represents an **emerging public health threat** due to its remarkable genomic adaptability, involvement in multinational **foodborne outbreaks**, and the ability to establish **persistent infections**. The researchers report the first documented isolation of a carbapenem-resistant S. Mbandaka strain, a significant public health concern given the critical role of carbapenems in treating multidrug-resistant infections. [MicrSpectr](#), 14 pages. (15.08.2025).

CHEMISTRY

★★★★ Global threat from chemical pollution

The **threat of chemical pollution** is now seen as **comparable to climate change** but less recognised in public debate and policy, according to a report by Deep Science Ventures. More than **100 million synthetic “novel entity” chemicals** have been created, of which 40,000–350,000 are in commercial use. Researchers have found **3,600 chemicals from food contact materials** in human bodies and have detected PFAS 'forever chemicals' in nearly all people tested. Research has linked widespread chemical exposure to infertility, attention deficit hyperactivity disorder (ADHD), cancer, and damage to reproductive, immune, and neurological systems, while current toxicity testing is considered insufficient. [TheGuardian](#), 3 pages. (06.08.2025). Additional Information: [Deep Science Ventures](#).

★★★ Dietary exposure to lead in the European population

EFSA assessed chronic dietary lead exposure in the European population, revealing that **meat and meat products**, particularly **game mammals**, had the highest lead occurrence. **Toddlers and infants** showed the highest mean and 95th percentile exposure, respectively. **Meat-based foods and bread** were major contributors to lead exposure in adults. Lead occurrence showed a slight decrease in most food categories, except for legumes, vegetables, and coffee, which saw an increase. [EFSA](#), 60 pages. (08.08.2025).

★★★ Babies are harmed by even tiny amounts of nitrate in drinking water

A recent US study has found that even trace amounts of **nitrate** in drinking water, far below the U.S. Environmental Protection Agency's (EPA) current safety standards, can significantly increase the risk of **premature birth and low birth weight**. Researchers analyzed birth records in **Iowa** and discovered that levels as low as **0.1 milligrams of nitrate per liter** were associated with these adverse birth outcomes, which are leading causes of death in newborns and can lead to developmental disorders and chronic diseases later in life. [R](#), 3 pages. (12.08.2025). Original Publication: [PLOS Water](#).

★★ PFAS exposure via infant feeding and the gut microbiota of preterm infants

This study investigated the impact of **per- and polyfluoroalkyl substances (PFAS)** exposure through **infant feeding** on the **gut microbiota** of 73 **preterm infants**. Researchers measured 13 PFAS in feeding substances and analyzed the infants' gut microbiota and metabolites. Results indicated that higher daily intakes of several PFAS were associated with **reduced gut microbiota diversity** and **altered bacterial composition**, particularly with the genus *Veillonella*. Furthermore, PFAS exposure was linked to **disruptions in nutrient synthesis** and **metabolism**, potentially affecting the normal development of preterm infants. [Ecotoxicol Environ Saf](#), 11 pages. (15.09.2025).

★★ Microplastics in plants

Microplastics are increasingly being detected in agricultural environments, yet their uptake and accumulation in plants is not fully understood. A review of recent studies has found that roots absorb **micro- and nanoplastics from soil**, while leaves capture airborne particles, such as **polyethylene terephthalate (PET)** and **polystyrene (PS)**. Once accumulated, these plastics can move through plant tissues and enter the food chain through **herbivores, insects and humans**. However, it is unclear whether microplastics accumulate in specific plant parts, such as seeds and fruits. [EurekAlert](#), 2 pages. (07.09.2025). Original Publication: [New Contam](#).

★ Mycotoxin risks in the shift toward plant-based diets

The global shift toward **plant-based diets** raises concerns about **increased mycotoxin exposure** due to the higher susceptibility of plant-based foods to fungal contamination. Recent findings suggest that vegetarians and vegans may have higher dietary exposure to mycotoxins. This review article examines regulated, and emerging mycotoxins. [Curr. Opin. Food Sci.](#), 10 pages. (06.08.2025).

★ Crackers with cricket powder - safety assessment study

This study investigates the impact of cricket powder (*Acheta domesticus*) enrichment on the formation of **acrylamide** and **chloropropanediols** in **salty crackers** made with white or whole grain wheat flour, baked at varying times. The findings indicate that **acrylamide and 3-MCPD levels increase** with cricket powder addition and longer baking times, particularly in white wheat flour crackers. [Food Chem.: X](#), 36 pages. (16.08.2025).

★ Micro- and nanoplastics in water

This study reviewed 6,472 papers (1990–2022) on **micro- and nanoplastics (MNPs)** in **freshwater**, focusing on human exposure via ingestion, inhalation, or skin contact. It found MNPs in tap and bottled water **worldwide** but no direct studies on **human exposure**. Methods for characterizing MNPs varied. [Microplastics](#), 25 pages. (05.09.2025).

★ Frozen shrimp from Indonesia contaminated with radioactive Cesium-137

Recent tests (City University of **Hong Kong**) on frozen **shrimp** imported from **Indonesia** have revealed the presence of radioactive **Cesium-137**, raising concerns about potential contamination from nuclear power plants or military tests. Its detection in shrimp likely results from environmental leakage during nuclear activities, which can introduce radioactive isotopes into the food chain. The U.S. Food and Drug Administration (**FDA**) has identified a batch of frozen shrimp that may be contaminated and has advised consumers against eating certain products. [DS](#), 1 page. (07.09.2025). Original Publication: [FDA](#). Additional Information: [Indonesian shrimp farmers demand urgent government action after "radioactive shrimp" scare](#), [Distributor recalls various shrimp because of radioactive concerns](#).

NUTRITION

★★ Urban foraging

Urban foraging involves **gathering food in urban environments**, from roadsides to cracks in the pavement. Gaining popularity as a **modern form of hunting and gathering**, it is becoming increasingly common. While it is growing trend, it also raises concerns. Food collected in cities may be contaminated by car exhaust fumes or animal excrement, such as that from dogs and cats. There is also a risk of misidentifying poisonous plants. A recent ARTE documentary explored this topic, showing how foragers select collection sites and prepare meals using foraged ingredients. [ARTE](#), (26.08.2025).

★★ Some sugar substitutes linked to faster cognitive decline

A study of 12,772 adults in Brazil found that **higher consumption of low- and no-calorie artificial sweeteners** was associated with a faster decline in cognitive skills. These sweeteners are commonly found in ultra-processed foods such as flavoured waters, energy drinks, yoghurt and low-calorie desserts. Participants underwent cognitive testing over time, and those in the highest intake group showed a **greater decline in overall memory and thinking skills** than those in the lowest intake group. [EurekAlert](#), 2 pages. (03.09.2025). Original Publication: [Neurology](#).

★ French fries connected with diabetes

A large U.S. study of over 205,000 health professionals found that eating three servings of **French fries** per week was linked to a **20% higher risk of type 2 diabetes**, while similar amounts of **boiled, baked, or mashed potatoes did not significantly increase risk**. Replacing potatoes, especially fries, with **whole grains lowered diabetes risk**, whereas replacing them with **white rice increased risk**. [ScienceDaily](#), 2 pages. (11.08.2025). Original Publication: [BMJ](#).

★ Ultraprocessed food consumption associated with lung cancer

Higher consumption of **ultraprocessed foods (UPF)** was linked to an increased risk of **lung cancer**, including both **non-small cell (NSCLC)** and **small cell (SCLC)** types. This finding comes from a study of **over 100'000 adults aged 55–74** in the Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial in China, followed for **12.2 years**. The associations remained **significant** after **adjusting for smoking, diet quality, body size and other variables**. These findings highlight potential **health benefits of limiting UPF intake** to reduce lung cancer risk. [FoodNavigator](#), 5 pages. (15.08.2025). Original Publication: [BMJ](#).

★ Ultra-processed food (UPF) and male fertility

A randomized controlled trial compared men consuming ultra-processed food (UPF) diets with those on a minimally processed diet matched for calories, sugar, fiber, and salt. The UPF group experienced **declines in sperm count, motility, and concentration**, as well as **lower testosterone levels**. They also gained **fat mass** and showed **higher phthalate exposure**. This points to chemical contaminants as an added risk. [FoodNavigator](#), 3 pages. (29.08.2025). Original Publication: [Cell Metab](#). Additional Information: [L'alimentation ultra-transformée nuit à la fertilité des hommes](#).

★ Synthetic preservatives may cause early-onset colorectal cancer

Early-onset colorectal cancer (EOCRC) is emerging as a global health concern, particularly among individuals under the age of 50. Its prevalence has increased parallel to the consumption of processed foods, which often have a high level of synthetic preservatives. There is growing evidence to suggest that **these preservatives may contribute to adverse gut health outcomes**, which are a known risk factor in the development of colorectal cancer. Despite their widespread use, the long-term health implications of synthetic preservatives remain poorly understood. Current evidence indicates that synthetic preservatives, such as **nitrites, benzoates and sulfites**, may be contributing to the increasing incidence of early-onset colorectal cancer. [Foods](#), 10 pages. (01.09.2025).

ALLERGY

★★ New allergens proposed for labeling

Researchers analysing cases of **food-induced anaphylaxis** (2002–2023) in French-speaking countries (mainly France, Belgium and Luxembourg) identified **several emerging food allergens** that are not currently regulated under EU major allergen labelling rules. Based on these findings, experts recommend considering at least four allergens — **goat/sheep milk, buckwheat, peas/lentils and pine nuts** — for inclusion in the EU's list of mandatory allergen labels. [FoodSafetyMag](#), 2 pages. (03.09.2025). Original Publication: [Clin Exp Allergy](#).

FRAUD / DECEPTION

★★★ Food Defence: Food companies targeted in blackmail plot

Police in **Poland** have detained a man suspected of issuing **threats to contaminate food products** unless a ransom was paid in Bitcoin. According to investigators, the suspect sent emails in which he threatened to detonate planted materials and introduce toxic substances into production lines. In these messages, the anonymous sender demanded payment in **Bitcoin**, providing a specific cryptocurrency wallet for the transfer. The requested amount was valued at several million zloty. None of the intended targets complied with the ransom demands. [FSN](#), 1 page. (11.08.2025).

★ Saffron fraud

Saffron, the world's most valuable spice, is frequently adulterated—affecting 20–30% of global supply—with practices ranging from **plant substitutions** to the addition of **hazardous synthetic dyes**. A **review** of 23 studies (2015–2025) reveals that fraud is driven by economic incentives and regulatory gaps, with prevalence varying widely across regions. [CritRevFoodSciNutr](#), 17 pages. (12.08.2025).

★ Spain, Portugal target illegal clam trade

Spanish and **Portuguese** authorities, supported by Europol, have taken action against the illegal harvest and distribution of potentially contaminated **Manila clams** in the **Tajo River** border region. The clams were stored in water containers and marketed using **falsified documentation** to circumvent health and administrative controls. Eleven people have been arrested. They are suspected of having made at least €1.6 million (\$1.8 million) in profit this year. More than seven tons of Japanese clams with a value of €150,000 (\$175,000) were seized across two operations. [FSN](#), 1 page. (18.08.2025).

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MICROBIOLOGY

★★★★ Internalisation of foodborne pathogens in lettuce, cucumber plants, and fruits

This study highlights the **significant risk** of colonization and internalisation of *Escherichia coli* O157:H7 and *Salmonella* Typhimurium within lettuce and cucumber plants under greenhouse conditions. Seed, growing medium, leaf, and blossom inoculation with 10^7 cfu/mL consistently led to pathogen detection in **roots, shoots, leaves, and fruits**, with near-100% rates (95 % CI: 72–100%) across multiple time points and cultivars. These findings confirm the capacity of *E. coli* O157:H7 and *S. Typhimurium* to **colonize and persist within edible plant tissues** from early growth to harvest, posing a substantial food safety challenge. [Food Microbiol.](#), 7 pages. (01.2026).

★★★ Effects of heat, pH, and drying on HEV in pork products

Foodborne Hepatitis E virus (HEV), mainly linked to **pork**, poses a public health concern in Europe, but the effectiveness of current meat processing methods in inactivating the virus remains unclear. This study found that **only heating to 99°C fully inactivated HEV**, while drying and pH reduction were largely ineffective, with intact viral particles persisting in **sausages** and **liver pâté**. [Int J Food Microbiol.](#), 13 pages. (08.07.2025).

★★★ Rat hepatitis E virus in water and food-related sources

A systematic review investigated the presence of **rat hepatitis E virus (rat HEV)** in **water** and **food-related environments** and its potential risk to human health. High detection rates of rat HEV RNA in influent wastewater in European countries (e.g., Sweden, France, Italy, Spain, Portugal) have been reported. In Brazil, **2.2%** of **mussel** and **oyster** samples intended for human consumption tested positive. This **environmental contamination** raises concerns about possible zoonotic transmission. While human infections have been documented, the true extent of rat HEV's zoonotic potential remains unclear. [Foods.](#), 7 pages. (19.07.2025).

★★★ The zoonotic potential of *Helicobacter pylori*

This systematic review evaluates the **zoonotic potential of *Helicobacter pylori***, analyzing 28 studies selected from an initial 393. Pets appear unlikely to transmit the bacterium to humans; however, farm animals, **raw milk**, flies, **fish**, and contaminated **water** may serve as possible vectors. [Discov Public Health.](#), 22 pages. (25.07.2025).

★★ Risk of food-borne transmission of *Toxocara* spp. to humans

This study used Bayesian models to estimate the risk of food-borne transmission of *Toxocara* spp. in the UK, finding a low average infection risk from unwashed **leafy vegetables** (0.016%) and **undercooked meat** (0.172%) per portion. The estimated contamination rate with *Toxocara* larvae was higher in meat (0.841%) than in spinach with larvated eggs (0.036%). However, given the potentially severe human health consequences of toxocarasis, intervention strategies to reduce environmental contamination with *Toxocara* spp. eggs and correct food preparation are advised. [Epidemiol Infect.](#), 7 pages. (09.06.2025).

★ Cross-border outbreak of *Yersinia enterocolitica* bioserotype 2/O:9 infections, 2024

Yersinia enterocolitica is a common cause of bacterial diarrhoea in Europe, often linked to contaminated food like undercooked pork or raw vegetables. In 2024, a major outbreak affected at least 175 people in **France**, with additional cases in three other European countries. The source was probably **unpasteurised goat's milk cheese**, with matching bacterial strains found in both patients and production sites. [Eurosurveillance](#), 9 pages. (03.07.2025). Additional Information: [ECDC \(2024\)](#).

★ Fatal *Listeria* outbreak: Ready-to-heat meals are likely cause

A foodborne listeriosis outbreak in **Ireland** has sickened nine people and resulted in one death. The preliminary results of an ongoing investigation suggest that **ready-to-heat meals** are the cause of illness. According to the company concerned, *Listeria monocytogenes* was identified at one of its facilities during a routine quality control check. [Food Safety Mag.](#), 1 page. (25.07.2025).

★ *Bacillus cereus sensu lato* associated with foodborne outbreaks in France, 2004-2023

A study analyzing 294 *Bacillus cereus sensu lato* (Bcsl) genomes from 183 foodborne outbreaks (FBOs) in **France** between 2004 and 2023 identified three predominant Bcsl populations: *B. cereus sensu stricto*, *B. paranthracis*, and *B. thuringiensis* subsp. *kurstaki*, which were associated with “**composite dishes**”, **cereals**, and **vegetable-based salads**, respectively. Some strains showed phylogenetic relatedness to clinical isolates and varying levels of antibiotic susceptibility, including increased sensitivity to ampicillin in *B. cytotoxicus*. Additionally, various strains showed reduced susceptibility to macrolides and cyclins. [Food Microbiol.](#), 55 pages. (30.07.2025).

★ *Acinetobacter* in retail meat

This study from the city of León (**Spain**) found *Acinetobacter* spp. in 74 of 100 fresh meat samples, with **turkey** showing the highest prevalence, and identified 22 species, including two novel ones. Genomic analysis revealed 16 new *A. baumannii* sequence types and a range of **plasmid-borne antibiotic resistance genes**, including *bla*_{OXA-58}, *mcr-4.3*, and *tet(X3)*. These findings highlight **fresh meat** as a **potential vector** for clinically relevant *Acinetobacter* and resistance genes, raising public health concerns. [Int J Food Microbiol.](#), 11 pages. (02.10.2025).

★ Peanut butter linked to infant botulism case in UK

In May 2024, a confirmed case of **infant botulism** in the UK was linked to **peanut butter** consumption. The infant had been fed peanut butter from **6 months of age**, in line with national guidance introduced in 2018 to reduce peanut allergy risk. Contamination likely occurred through *Clostridium botulinum* spores present in nuts at the agricultural or processing stage. [Eurosurveillance](#), 3 pages. (31.07.2025). Additional Information: [Food Safety News](#).

★ French botulism outbreak

In July, six cases of **botulism** were reported in the Cholet (Département Maine-et-Loire, **France**) area. The patients developed severe symptoms between July 7 and 14, requiring hospitalization; one of them, a 78-year-old woman, died. They had shared a meal that included **carrot cake** prepared with canned carrots. The French National Public Health Agency (Santé publique France) has also published data on all types of botulism in the country from 2018 to 2024. [FSN](#), 2 pages. (04.08.2025). Additional Information: [Liberation](#), [Le courrier de l'ouest](#), [Botulisme en France. Bilan 2018-2024](#).

CHEMISTRY

★★ Estragole in fennel seed products – potential health concern

EFSA's draft scientific opinion identifies **estragole** in **fennel seed** products as a potential health concern due to its **genotoxic** and **carcinogenic** properties. These products, commonly found in **herbal infusions**, **spice mixes**, and **food supplements**, may pose a health risk, particularly for **babies**, **young children**, and **fetuses** or **breastfed infants** when consumed by pregnant or lactating women. Based on the available data, EFSA concluded that a daily dose of estragole without a harmful effect cannot be established. [Food Safety Mag.](#), 1 page. (17.07.2025). Original Publication: [EFSA](#).

★★ Detection of titanium dioxide particles in human, animal and infant formula milk

A recent study has revealed the presence of titanium dioxide micro- and nanoparticles, classified as a potential carcinogen and banned as a food additive in the EU, in **breast milk**, **infant formula**, and **animal milk**. Researchers detected varying levels of titanium dioxide particles in samples, indicating that they can pass through the mammary gland and contaminate milk supplies despite the ban, suggesting other sources of contamination. [INRAE](#), 2 pages. (23.07.2025). Original Publication: [Sci Total Environ](#).

★ Common sweeteners may accelerate puberty in kids

The sweeteners **aspartame**, **sucralose** and **glycyrrhizin**, as well as **added sugar**, may increase the risk of **early puberty** in children, particularly in those with a **genetic predisposition**. A large-scale Taiwanese cohort study found that higher intake of sweeteners and added sugar was associated with changes in hormone regulation and gut microbiota that could result in the early onset of puberty. However, different effects were observed in boys and girls. [Science Daily](#), 2 pages. (15.07.2025).

★ Side effects associated with the consumption of *Garcinia cambogia* food supplements

A recent analysis by the **French** government agency Anses has revealed that ***Garcinia cambogia*** fruit rind extract, containing hydroxycitric acid and frequently found in **weight loss supplements**, is linked to severe **adverse effects**, including acute **hepatitis**, even in individuals without prior medical conditions. This led to the suspension of its marketing in France in April 2025. Anses advises against the consumption of products containing *Garcinia cambogia* extracts and emphasizes the risks associated with seeking weight loss without medical advice. [Vigil'Anses](#), 2 pages. (07.2025). Additional Information: [Anses](#), [Death from liver failure: Authorities warn against dangerous weight loss product](#).

★ PFAS linked to higher risk of type 2 diabetes

Exposure to **per- and polyfluoroalkyl substances (PFAS)** may increase the **risk** of developing **type 2 diabetes (T2D)**, according to a new study led by researchers at the Icahn School of Medicine at Mount Sinai (New York). In a nested case–control study of 180 incident T2D cases and 180 matched controls, the researchers found that **each tertile increase in the PFAS mixture** was associated with a **31% increase in the odds of incident T2D**, and that these associations could be due to dysregulations in amino acid biosynthesis and drug metabolism. [EurekAlert](#), 2 pages. (21.07.2025). Original Publication: [eBiom](#).

★ Reverse distribution and toxicity of flufenacet metabolites in wheat

Amid growing concerns over fluorinated compounds, the **OECD** has reclassified many **fluorinated pesticides** as **PFAS**, though their metabolite distribution in plants remains largely unknown. A recent study used **flufenacet** in wheat to reveal a “**reverse distribution**” pattern, where toxic metabolites accumulated in shoots while the parent compound stayed in roots. Toxicity assessment revealed that despite lower acute toxicity, these metabolites exhibited higher hepatotoxicity, mutagenicity, and carcinogenicity than the parent compound. The findings challenge traditional transport theories and suggest that risk assessments for PFAS pesticides should account for metabolite behavior and toxicity. [J Agric Food Chem](#), 10 pages. (29.07.2025).

NUTRITION

★ High ultra-processed food (UPF) intake linked to increased mortality risk

A study that followed over 500,000 individuals for nearly 30 years found that high consumption of **ultra-processed foods (UPF)** was associated with a **10% higher risk of mortality**, particularly from heart disease and diabetes. The food groups most strongly linked to increased mortality risk were **highly processed meats** and **soft drinks**. [Food-Navigator](#), 2 pages. (16.07.2025). Original Publication: [Curr Dev Nutr](#).

★ How sources of dietary fat influence cancer growth in obesity

Obesity increases the risk of at least 13 major **cancers** and weakens **immune responses** against tumors. A decade-long study shows that the type of **dietary fat**—not body fat itself—drives tumor growth in obese mice. Specifically, high-fat diets from **lard**, **beef tallow**, and **butter** impair anti-tumor immunity, while high-fat diets from coconut, palm, or olive oil do not. [EurekAlert](#), 2 pages. (30.07.2025). Original Publication: [Nature Metabolism](#).

ALLERGY

★★★ *Anisakis* sp.: implications for parasitic-induced meat allergy

This study investigates the potential of *Anisakis* sp. as a **novel source** of α -Gal (Gal α 1-3Gal β 1-4GlcNAc-R) epitopes capable of **inducing allergic sensitization** in humans. Patients sensitized to *Anisakis* sp. showed significantly higher levels of anti- α -Gal antibodies, suggesting a **link between the parasite and α -Gal allergy**. The results indicate that *Anisakis* sp. may serve as an alternative, parasitic route for α -Gal sensitization beyond the classical tick-bite pathway. [Pathogens](#), 14 pages. (07.08.2025).

★ Prevalence of anti-*Anisakis simplex* antibodies in IBD patients

A recent study from Norway provides compelling evidence that patients with inflammatory bowel disease (IBD), specifically ulcerative colitis (UC) and Crohn's disease (CD), exhibit distinct **antibody profiles** against the parasitic nematode *Anisakis simplex*. IBD patients showed higher total Ig and IgA seroprevalence compared to healthy controls, with anti-*A. simplex* IgG and IgE levels associated with milder disease in UC. These findings suggest that **immune responses to *A. simplex* may be linked to IBD pathogenesis** and prognosis, highlighting the potential of parasite-specific antibodies as biomarkers for disease activity and therapeutic monitoring. [Pathogens](#), 28 pages. (04.08.2025).

FRAUD / DECEPTION

★ Olive oil fraud

Olive oil trade is facing a global **fraud crisis** as **climate change reduces harvests**, resulting in **rising prices** and creating incentives for deception. Common scams include **adulteration** with cheaper oils and **deceptive labeling**, especially fake "extra virgin" claims. In 2024, the EU reported 130 olive oil alerts, with 15% involving cross-border fraud. [Food Ingredients 1st](#), 3 pages. (07.07.2025). Original Publication: [EU COM](#).

★ Four arrests in FSA's rice fraud investigation

Four people have been arrested in Leicester (**UK**) as part of an investigation into the distribution and sale of **basmati rice in counterfeit packaging**. Large quantities of 10-kilogram and 20-kilogram bags of mixed rice in counterfeit premium brand basmati packaging were seized. Basmati rice has a unique aroma and flavor, and cooking qualities make it a premium product. [FSN](#), 1 page. (07.08.2025). Original Publication: [FSA](#).

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MICROBIOLOGY

★★ *Toxoplasma gondii* in ready-to-eat salad mixes: multi-country survey

A recent study across Europe revealed a 4.1% prevalence of *Toxoplasma gondii* oocyst contamination in **ready-to-eat salads**, with higher rates in winter and in samples from Western Europe, posing a potential risk to consumers. The international project, which analyzed over **3300 samples** of baby leaf and chopped salad mixes from retail stores in 10 countries, highlights the need for further research and standardized methods to assess and mitigate the risk of **food-borne parasites in fresh produce**, especially given the increasing consumption of ready-to-eat salads and the lack of mandatory surveillance. [Eurosurveillance](#), 13 pages. (05.06.2025). Additional Information: [Food Safety News](#).

★★ Imported seafood as a vector for dissemination of colistin resistance genes

Colistin is a critically important, last-resort antibiotic employed in the treatment of severe, life-threatening bacterial infections caused by multidrug-resistant pathogens. However, its efficacy is increasingly compromised, as **resistance to colistin continues** to emerge and disseminate globally, further limiting available therapeutic options and heightening risks for affected patients. Recent research conducted by scientists at the **University of Georgia** has identified imported **seafood as a potential vector** for the transmission of colistin resistance genes, underscoring the role of the global food supply chain in the spread of antimicrobial resistance. [ScienceDaily](#), 3 pages. (22.06.2025).

★★ Survival of highly pathogenic avian influenza (HPAI) A virus (H5N1) in thermised whole milk

This Canadian study investigates the effectiveness of thermisation, a **sub-pasteurization heat treatment**, on inactivating the **H5N1** avian influenza virus in **raw cow milk**, prompted by recent spillover events to dairy cattle and concerns about milk safety. The researchers inoculated raw milk with H5N1 and subjected it to thermisation at 60°C, 63°C, and 66°C for 15 seconds, finding significant reductions in viral infectivity at 60°C and 63°C, and **complete inactivation at 66°C**, demonstrating that thermisation can effectively reduce the viral load in milk. This research provides data for informed risk assessment of dairy products made from thermised milk potentially contaminated with A(H5N1). [Food Microbiol.](#), 10 pages. (12.2025).

★★ Effect of pH and temperature on H5N1 infectivity in dairy processing

H5N1 avian influenza viruses can remain infectious in **raw milk** for weeks and show high stability at low temperatures and neutral to slightly alkaline pH. A study conducted in **Switzerland** found that while pasteurization and acidic conditions (e.g., in yoghurt) effectively inactivate the virus, **H5N1 may survive in raw bovine milk cheese** if production temperatures remain below 50 °C. These findings raise concerns about the safety of unpasteurized dairy products. [IntJFoodMicr](#), 35 pages. (26.06.2025).

★★ EFSA warns of HPAI risk to Europe from bird migration and US raw milk products

The seasonal migration of wild birds and the **importation of certain US products**, such as those **containing raw milk**, could be **potential routes** for the introduction of the highly pathogenic avian influenza (HPAI) genotype currently affecting US dairy cows into Europe, a new report released by EFSA says. This virus type has not been reported so far in any country other than the USA. [EFSA](#), 1 page. (03.07.2025). Original Publication: [EFSA](#).

★★ Possible new focus of Diphyllbothriasis, Central Europe

Diphyllbothriasis is a human parasitic infection that is widespread in the Northern Hemisphere. Popular sport fish such as pike and perch are the source of human infection. The number of cases decreased drastically after World War II. Today, only small foci remain, mainly in the Alpine lakes of northern **Italy**, **Switzerland**, and **France**, where **diphyllobothriasis** continues to circulate. A study documents the autochthonous origin of diphyllbothriasis in a popular tourist destination in Central Europe, which likely marks recent colonization of the parasite. [Emerg Infect Dis](#), 1 page. (12.2024).

★★ Pathogenic *Shewanella* in seafoods

Shewanella spp., particularly *Shewanella algae* and *Shewanella putrefaciens*, are **emerging seafood pathogens** linked to invasive infections and increasing public health concerns due to rising seafood consumption. These bacteria are widespread in marine environments and have shown growing resistance to **β-lactam antibiotics**, largely due to antibiotic misuse in aquaculture. This review synthesizes existing data on: i) the **prevalence** of potentially pathogenic *Shewanella* spp. in oysters and seawater from locations around the world, ii) the **antibiotic resistance** profiles of isolates from diverse geographic regions, and iii) processing **treatments to reduce *Shewanella*** in seafoods. [JFoodProt](#), 30 pages. (27.06.2025).

★ *Listeria monocytogenes* in acidic baby fruit purees

Baby fruit purees are high acidic food products that are often the first foods to be introduced as variety in babies' diet. In the case of partial consumption of fruit purees, consumer practices may influence exposure of infants to ***L. monocytogenes*** in the event of accidental contamination. This study highlights the strong impact of environmental and pre-growth conditions on the inactivation of *L. monocytogenes* in acidic fruit purees, with storage temperature being the key factor—**higher temperatures accelerate bacterial reduction**, while **refrigeration can promote survival**. [Food Res. Int.](#), 9 pages. (10.2025).

CHEMISTRY

★★ Rising cadmium exposure among the French population

French doctors are raising concerns about widespread cadmium contamination in young children, with primary sources being common foods like **bread**, **pasta**, and **potatoes**, leading to 18% exceeding the reference threshold; this issue is exacerbated by France's dependence on **phosphate fertilizers from Morocco**, which contain cadmium. [BakeryAndSnacks](#), 4 pages. (23.06.2025). Additional Information: [Open letter of the "Unions Régionales de Professionnels de Santé - Médecins Libéraux \(URPS-ML\)](#), [Cadmium Contamination in Food: French Experts Call for Urgent Action](#), [FRC](#).

★★ Glass bottles show high levels of microplastic contamination

This study measured **microplastics in drinks** sold in France and found 2.9 MPs/L in water, 31.4 in soft drinks, 28.5 in teas, 45.2 in lemonades, 82.9 in beers, and 8.2 in wines. **Glass bottles had the highest contamination**, mainly from the colored paint on the outside of the caps. Rinsing or blowing the caps before bottling may help reduce this. [NewFoodMag](#), 2 pages. (23.06.2025). Original Publication: [J. Food Compos. Anal.](#).

★ Nitrate in drinking water linked to preterm birth rates

This study linked **lowa water quality data** (1970–1988) with birth records to examine the effects of early prenatal **nitrate exposure** on birth outcomes. Findings showed that even low-level nitrate exposure (>0.1 mg/L) was associated with increased risk of preterm birth and low birth weight. Results suggest that current nitrate safety standards may not be protective enough for pregnant populations. [EurekAlert](#), 2 pages. (25.06.2025). Original Publication: [PLOS Water](#).

★ Per- and polyfluoroalkyl contamination levels in milk

Milk is a widely consumed beverage globally, with projected consumption reaching 356 million tons in 2025, raising concerns about contamination by persistent pollutants like **per- and polyfluoroalkyl substances (PFASs)**. This review analyzes **22 studies from the past decade**, covering 824 milk samples worldwide, and confirms the **presence of PFASs, including PFOA and PFOS**, though with highly variable concentrations. The lack of consistent data and coordinated monitoring highlights the urgent need for systematic research to better assess exposure risks. [Foods](#), 21 pages. (26.06.2025).

★ FAO and WHO warn about chemicals in farm water

The Food and Agriculture Organization (FAO) and the World Health Organization (WHO) have issued a warning about the **increasing risk of chemical contamination in food** due to the use of **alternative water sources in farming**, which may contain harmful substances like **arsenic, lead, and PFAS**. As traditional water sources become scarce, farmers are turning to recycled water and groundwater, leading to potential health risks for consumers. The organizations are urging governments to improve monitoring, regulations, and farmer education to ensure safer water usage in agriculture through a collaborative "One Health" approach. [DA](#), 1 page. (26.06.2025). Original Publication: [FAO](#).

★ Are we eating microplastics with our staple food?

A study in **Bangladesh** investigated microplastic (MPs) contamination in store-bought **raw and cooked rice** to estimate human exposure, finding MPs in all samples with raw rice containing 67.20 ± 24.21 items/g and cooked rice 32.47 ± 12.46 items/g. The most prevalent MPs were fragment-shaped, black and blue, and **smaller than 0.1 mm**, consisting of polymers like **Nylon, nitrile, acrylonitrile butadiene styrene (ABS), polyvinyl chloride (PVC)**, and multiple other polymers; traditional cooking reduced MPs, but daily intake via rice is estimated at $15,226.87 \pm 5843.59$ items per adult, highlighting the need for further research on health impacts and mitigation. [Environ. Sci. Pollut. Res.](#), 10 pages. (28.06.2025).

★ Perfluoroalkyl substances (PFAS) accumulation in lettuce

This study investigates the **uptake, translocation, and distribution** of 11 PFAS compounds in two hydroponically grown **lettuce** cultivars, Agila and Bonaly, in an open field experiment in a PFAS-contaminated region of North-East Italy. The research found that PFAS accumulation in lettuce leaves was influenced by carbon chain length, exposure level, plant age, and variety, with Agila accumulating more mid- and long-chain PFAS, while Bonaly showed a decline in PFAS uptake with age. Short-chain PFAS, though underregulated, were also examined, and the study highlights the importance of considering plant development stage and variety-specific differences in **PFAS accumulation** for assessing food safety risks associated with PFAS contamination. [Horticulturae](#), 15 pages. (02.07.2025).

★ Health risk assessment of heavy metals with nephrotoxic effects from vegetables and fruits

This study assessed the health risks associated with the intake of **heavy metals** from **vegetables and fruits** in **Taiwan**, focusing on **arsenic, cadmium, lead, barium, manganese, and molybdenum** and their nephrotoxic effects. The analysis of 203 vegetable and 79 fruit samples revealed that **arsenic levels in stone fruits** and **lead levels in leafy vegetables** pose carcinogenic risks for certain age groups, while molybdenum was identified as the primary contributor to elevated hazard index values in specific subpopulations, suggesting the need for enhanced monitoring and dietary risk management strategies. [Food Chem. Toxicol.](#), 10 pages. (04.07.2025).

★ Exposures to contemporary and emerging chemicals among children

A comprehensive study funded by the National Institutes of Health (NIH) has found that **children aged 2 to 4 in the United States** are routinely exposed to a wide range of potentially harmful chemicals, many of which are not monitored by national health surveys. Researchers tested the **urine of 200 toddlers** and detected a concerning mix of **96 different chemicals**—some not currently tracked by government health programs. [SciTechDaily](#), 3 pages. (07.07.2025). Original Publication: [EnvSciTech](#).

NUTRITION

★★★ Plant-based milk alternatives in Switzerland

In **Switzerland**, plant-based milk alternatives often fall short of **nutritional standards**, with nearly half of 66 analysed products rated **poor** (Nutri-Score D) and containing multiple **additives**. A recent study of Agroscope examined their nutritional and compositional quality, price correlations, and potential for healthier reformulation through an online market inventory. These findings suggest that targeted adjustments could significantly improve sugar, calorie, and additive levels in these products. [Agroscope](#), 4 pages. (04.06.2025). Original Publication: [LWT](#).

★ **No safe level: processed meats and other dietary risks linked to major chronic diseases**

Nutrition experts emphasize that current evidence indicates **no safe level of consumption** for **processed meats**, based on a comprehensive analysis of diet-related disease risk. In a new meta-analysis of over 60 epidemiological studies, researchers found that higher intake of **processed meats**, **sugar-sweetened beverages**, and **trans fatty acids** is significantly associated with increased risks of **type 2 diabetes**, **colorectal cancer**, and **ischemic heart disease**. [CNN](#), 3 pages. (02.07.2025). Original Publication: [Nat. Med.](#).

★ **Climate change has been linked to a decline in the nutritional quality of food**

New preliminary research reveals that **rising CO₂ levels** and **higher temperatures** diminish the **nutritional quality** of leafy vegetables such as **kale**, **spinach**, and **rocket** when grown under simulated future climate conditions. While crops may grow larger under elevated CO₂, they **lose key nutrients** like calcium, protein, and antioxidants, especially under added heat stress. These changes highlight the need for climate-resilient, nutrition-focused food systems. [EurekAlert](#), 2 pages. (08.07.2025).

ALLERGY

★ **Allergen safety challenges in shared and ghost kitchens**

Ghost kitchens, projected to reach \$71.4 billion in sales by 2027, present heightened **food allergen risks** due to shared equipment, confined spaces, and multiple brands operating within single facilities, leading to cross-contact hazards for the 33 million **Americans** with **food allergies**. Effective allergen management strategies include spatial segregation, validated cleaning with enzymatic detergents, and tech-enabled transparency through digital platforms, but regulatory oversight struggles to keep pace, necessitating innovations like lateral flow allergen tests and blockchain-enabled ingredient tracking to protect allergic consumers in the evolving delivery-dominated dining landscape. [Food Poisoning News](#), 3 pages. (26.06.2025).

FRAUD / DECEPTION

★★ **Safety and fraud issues in commercially available cinnamon**

A study of 104 **cinnamon samples from EU retailers** revealed that **66.3% failed to meet international quality standards**, with issues ranging from **misidentification** of species (Cassia vs. Ceylon), **adulteration**, and **contamination** with **lead** and other elements like **aluminum**, **titanium**, **iron**, and **zirconium**. The study highlights the complexity of the cinnamon supply chain and the potential for fraudulent practices. [npj Sci Food](#), 10 pages. (05.07.2025).

Close up

New information has emerged from [the FSVO's early detection system](#) for food safety:

- Brunner, T. and Lüthi, T. (2025), Exploratory survey Food safety and consumer behaviour in Switzerland. *Food Risk Assess Europe*, 3: 0055E. <https://doi.org/10.2903/fr.efsa.2025.FR-0055>

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MICROBIOLOGY

★★★ *Campylobacter* in raw chicken meat at retail level in Switzerland

A recent cross-sectional study aimed to determine the prevalence and levels of *Campylobacter* in **Swiss** and imported retail chicken meat during May – August 2024. **Quantitative** analysis detected *Campylobacter* in **3.7%** of retail chicken meat samples, while qualitative assessment revealed a much higher prevalence of 51%. Contamination levels were **significantly higher in chilled meat** compared to frozen meat, and genomic profiling showed **isolates clustering with human clinical strains**. These findings suggest that freezing chicken meat before retail could help reduce the public health risk. [J Food Prot](#), 37 pages. (10.05.2025).

★★ *Hypervirulent Listeria monocytogenes* in a mushroom production facility in China

A recent study investigates the prevalence, contamination routes, and persistence of *Listeria monocytogenes* in *Flammulina velutipes* (**enoki mushroom**) production, highlighting its significance as a foodborne pathogen and the health risks associated with its presence in edible fungi. The research found a **high prevalence of *L. monocytogenes* in production facilities**, identified dominant *Listeria* species, and emphasized the importance of serotyping for source tracking, especially given the ability of the bacterium to form biofilms and cause persistent contamination, as seen in various foodborne illness outbreaks. [Food Contr](#), 10 pages. (11.2025).

★★ EFSA: 2024 Emerging risks and horizon scanning activities

In 2024, the European Food Safety Authority (EFSA) continued to work with a strong **global network** of organisations to strengthen its preparedness for future risk analysis needs. The activities focused on the identification and analysis of **emerging issues**, weak signals, trends, and policy developments related to food and feed safety, plant health and animal health. EFSA collected a total of **65 emerging issues**, of which 38 were further characterised and **seven identified as emerging risks**. [FSN](#), 2 pages. (29.05.2025). Original Publication: [EFSA](#).

★★ Fishborne trematodiasis in freshwater fish in the U.S.

Fishborne trematodiasis has not historically been a public health concern in the U.S., but the introduction of the **invasive snail *Melanooides tuberculata*** and two associated **trematodes (*Haplorchis pumilio* and *Centrocestus formosanus*)** raises new concerns. Researchers confirmed that the parasite stages **infectious to humans** and causing trematodiasis are common and abundant in **seven popular fish** species caught in California. Social media evidence

suggests that people across the U.S. consume these fish raw and unfrozen, supporting the **potential for local transmission** of the disease. [EurekAlert](#), 3 pages. (04.06.2025). Original Publication: [J Infect. Dis.](#)

★★★ Widespread presence of NDM-1-positive *Shewanella* spp. and carbapenemase-producing bacteria in retail shrimp

A high prevalence (44.2%) of **blaNDM-positive bacteria** was detected in retail shrimp samples, with **NDM-1-producing *Shewanella* spp.** identified as the dominant strains. Molecular analysis revealed that the **spread of blaNDM-1** is facilitated both through **plasmid-mediated transfer** and **clonal transmission** among bacterial populations. These findings highlight the significant role of **shrimp as a potential reservoir for antimicrobial resistance**. [Int J Food Micr](#), 1 page. (29.05.2025).

★★★ Heatwaves may increase parasite burden

This study investigates how different attributes of heatwaves – amplitude, duration, and timing – affect host-parasite interactions using the *Daphnia magna*–*Ordospora colligata* model system. By **testing 64 heatwave scenarios** across varying baseline temperatures, researchers found that **heatwaves can alter parasite burden up to 13-fold**, with strong context-dependent effects. The findings highlight the complexity of predicting disease dynamics under climate change, emphasizing the need to integrate thermal variability into ecological models. [EurekAlert](#), 3 pages. (04.06.2025). Original Publication: [PLOS Clim](#).

★★★ First detection of the mycotoxin cyclopiazonic acid in fresh chicken breast

A study examined 50 chicken breast and liver samples from the Croatian market for eight mycotoxins produced by *Penicillium* and *Aspergillus* species. Mycotoxin contamination was more frequent in liver tissue, with **cyclopiazonic acid (CPA)** also found in **20%** of breast muscle samples – marking its **first detection in fresh meat**. While levels were generally low, the presence of multiple mycotoxins in some samples highlights the need for continued monitoring and further research on mycotoxin occurrence in poultry. [Foods](#), 10 pages. (10.06.2025).

★★★ *Citrobacter braakii* – an emerging food safety hazard?

Citrobacter braakii, an occasional **opportunistic pathogen**, can colonize **humans and animals**, though its role as a foodborne hazard is unclear. Twenty isolates from artisanal **salami** and **cheese** were compared genomically with public and clinical *C. braakii* genomes. One salami and two cheese isolates were closely related to **clinical strains**. All carried *bla*CMY and/or *qnrB* genes, conferring **resistance** to cephalosporins or reduced ciprofloxacin susceptibility. These findings suggest *C. braakii* may pose a foodborne risk. [Foods](#), 18 pages. (26.05.2025).

★★★ A rare foodborne outbreak caused by *Bacillus paranthracis* in Huzhou, China

Bacillus paranthracis, a spore-forming member of the *Bacillus cereus* group, has rarely been implicated in foodborne outbreaks. In this study, epidemiological and genomic analyses were conducted to investigate a 2024 **outbreak in Huzhou, China**, identifying ten *B. paranthracis* isolates – four from patients and six from food – with ST26 strains from **uncooked rice** as the source. [Int J Food Micr](#), 8 pages. (02.08.2025).

★★★ Can nanoplastics enhance the virulence of *E. coli* in the environment?

Nanoplastics fragments are so tiny that they can accumulate on bacteria and be taken up by plant roots; they are found in food and drinking water, and end up in our bodies. The full extent of their impacts on our health is not known, but new research from University of Illinois Urbana-Champaign food scientists suggests polystyrene nanoplastics may make pathogenic ***Escherichia coli* O157:H7 more virulent**. [EurekAlert](#), 2 pages. (19.05.2025). Original Publication: [J Nanobiotechnol](#).

★★★ Prevalence of spore-forming bacteria in raw materials used for plant-based milk alternatives

In this study from **Germany**, raw materials for producing milk alternative drinks based on oat, almond, pea, and rice were examined for their microbial load. The prevalence of **spore-forming bacteria** was assessed in various **plant-based raw materials** used for producing milk alternatives, revealing wide variations in both **viable cell counts** and **spore levels**. Notably, **syrops** processed by **ultra-high-temperature treatment** still contained spore levels ranging from <1 to 4 log₁₀ CFU/g. The genus *Bacillus* was the most frequently isolated group, with ***Bacillus licheniformis*, *B. subtilis*, and *B. tequilensis*** identified as the predominant species across samples. [Int J Food Micr](#), 9 pages. (02.08.2025).

★★★ Advances in food contaminant research: future risks, regulations, and detection

This systematic review explores current research on food contaminants, emphasizing **emerging risks to food safety**. It highlights evolving sources of contamination, such as microplastics, nanomaterials, and chemical residues. The review also examines gaps in regulation and the need for advanced detection technologies to address future challenges. [J Environ Manag](#), 18 pages. (09.04.2025).

★★ Increasing predominance of Norovirus GII.17 over GII.4, U.S., 2022–2025

Norovirus GII.17 outbreaks in the United States **increased** from <10% during the 2022–23 season to 75% during the 2024–25 season, surpassing the number of GII.4 outbreaks. The norovirus season also started earlier in 2024–25 than in previous seasons. Continued norovirus surveillance is needed to detect and monitor emerging strains. [Emerg Infect Dis](#), 2 pages. (07.2025).

★ 3D food printing and food safety challenges

This review explores the innovations and **challenges of 3D food printing**, emphasizing its potential for personalized nutrition and custom food structures. The technology's success depends on adaptability, printability, food safety, and consumer acceptance, with **food safety being a major concern across all stages** – from ingredient preparation to post-processing. Key risks include **microbial contamination** due to complex printer components and **insufficient sanitation**, highlighting the need for **hygienic design, standardized cleaning protocols**, and precise **post-processing controls**. [Foods](#), 10 pages. (13.06.2025).

CHEMISTRY

★★★★ Presence of plastic additives in food

A total diet study in Spain analyzed 109 food samples for **plastic additives**, detecting **plasticizers** in **85%** of them. Non-phthalate plasticizers like **ATBC** and **DEHA** were mainly found in **baby food** and **meat**, with their presence linked to specific packaging types such as glass jars and plastic wraps. Estimated daily intake assessments showed the **highest exposure in infants**, with a potential health risk from **DEHP** identified in this group. [IDAEA](#), 3 pages. (12.06.2025). Original Publication: [J Hazard Mater](#).

★ Health risks of synthetic food contact chemicals

A recent review article published highlights a critical yet often overlooked public health issue: the presence of **synthetic food contact chemicals (FCCs)** in food, particularly from packaging and processing. Conducted by scientists from the Food Packaging Forum Foundation, INSERM, New York University and ETH Zurich, the study reveals how these chemicals, increasingly associated with the **consumption of ultra-processed foods (UPFs)**, pose **significant health risks**. [Affidia](#), 1 page. (19.05.2025). Original Publication: [Nat Med](#).

★ Climate change putting people at risk from infection-causing fungi

Researchers from the University of Manchester (UK) have forecast there will be an **increased risk of infection** from fungi over the coming years, including a significant spread of some fungal pathogens across Europe, the extent of which will depend on global actions to mitigate climate change. The spread of **Aspergillus flavus**, for example, could increase its spread by about 16%, putting 1 million more people at risk of infection in Europe. This fungus infects a broad range of agricultural crops before or after harvest. [University of Manchester](#), (24.05.2025). Original Publication: [Res Sq](#). Additional Information: [Climate change fuelling spread of deadly fungal infections, study warns | The Independent](#), [A fungus that can 'eat you from the inside out' could spread as the world heats up | CNN](#).

★ Health risks posed by nanoplastics absorbing toxic metals

Recent research from the New Jersey Institute of Technology reveals that nanoplastics can absorb toxic heavy metals like **lead**, posing serious health risks. Using a novel method, researchers found that nanoplastics, especially those made from **polypropylene**, can rapidly adsorb over 99% of lead ions in a solution. These findings highlight the urgent need to address both plastic pollution and heavy metal toxicity due to their potential to jointly harm human health and the environment. [Affidia](#), 1 page. (27.05.2025). Original Publication: [ACS Water](#).

★ Occurrence and evaluation of microplastics in honeys

In this study, the physical and chemical properties of **microplastics in honey** produced in **Kosovo** in 2024 were determined and evaluated. Microplastic contamination was detected in **all honey samples** analyzed. The microplastic diversity index in the samples was low, while the microplastic load index was classified as moderate. Multiple potential sources of microplastics in honey are likely. [J Food Compos Anal](#), 10 pages. (09.2025).

★ Widespread contamination with endocrine-disrupting chemicals in honey

This study developed a sensitive method to detect seven endocrine-disrupting (ED) chemicals in honey, revealing widespread contamination – particularly with bisphenol F (98%), methylparaben (83%), and propylparaben (81%) – across 47 samples from seven countries. Results showed that honey stored in PET bottles and imported varieties contained higher levels of ED chemicals, with certain nectar sources linked to specific contaminants. Although health

risks for adults were considered low, the authors emphasize the need for strengthened monitoring of ED chemicals in food to protect public health. [Foods](#), 10 pages. (06.06.2025).

NUTRITION

★★★ Up to 24 million at risk from nutrition misinformation online

A new report investigates the growing prevalence of **nutrition misinformation** on **Instagram** by identifying the most common dietary themes linked to false or misleading content. Moreover, it seeks to understand the spread by profiling the **key superspreaders** responsible for its dissemination, along with their methods and strategies.

[New Food Mag](#), 2 pages. (22.05.2025). Original Publication: [Rooted](#).

★ Social media influence on food choices in Poland

This study examined how **social media** affects food purchasing decisions and dietary attitudes among Polish adults. Results show that social media have a **strong influence**, particularly on women, as they use it more frequently for food information and are more receptive to marketing. The findings highlight the need for **stricter regulation of online food advertising** to prevent **misinformation** leading to unhealthy consumer choices. [Nutrients](#), 11 pages. (26.05.2025).

★ Impact of sugar-sweetened beverage on sperm quality

Rising consumption of **sugar-sweetened beverages** (SSB) has been linked to declining **sperm quality**, prompting concerns about their impact on male fertility. This narrative review, based on 11 observational and cohort studies, highlights a consistent negative association between high SSB intake and sperm parameters such as count, motility, and DNA integrity, potentially mediated by oxidative stress, hormonal disruption, and metabolic dysfunction. While current evidence points to adverse reproductive effects, further standardised, longitudinal studies are needed to confirm causality and inform public health interventions. [Nutrients](#), 21 pages. (20.05.2025).

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MICROBIOLOGY

★★★★ First foodborne illness tied to *Bacillus velezensis*

An outbreak linked to **bakery cakes** at a business event was associated with **gastrointestinal symptoms** among attendees, with ***Bacillus velezensis*** identified in leftover cake samples. This marks the **first reported instance of *B. velezensis*** contributing to rope spoilage in baked goods, a phenomenon historically attributed to *B. subtilis*. The findings highlight the dual role of *B. velezensis* as both a **potential foodborne contaminant** and a biocontrol agent, underscoring the need for further research on its implications across the food production chain. [FSN](#), 2 pages. (29.04.2025). Original Publication: [AEM](#).

★★★ Rise in non-O157 STEC cases in England

This study analyzed laboratory surveillance data from England (2016–2023) and found a **tenfold increase in non-O157 Shiga toxin-producing *E. coli* (STEC)** cases, largely **attributed to improved PCR detection methods**. A wide diversity of **338 serotypes was observed**, with certain strains like **O26:H11** and **O145:H28** linked to higher rates of hospitalization and hemolytic uremic syndrome (HUS). These findings underscore the importance of ongoing PCR-based surveillance to monitor emerging virulent STEC strains and accurately assess public health risks. [FSN](#), 3 pages. (24.04.2025). Original Publication: [JMM](#).

★★★ Fungal contamination in slaughterhouses: an overlooked food safety and health risk

Fungi, including mycotoxigenic species like *Aspergillus*, *Fusarium*, and *Penicillium*, are **underestimated contaminants in slaughterhouses**, posing risks to **meat safety** and **worker health** through **food contamination** and **airborne exposure**. Despite their potential to cause **chronic health effects**, such as liver and kidney toxicity or cancer, fungal threats are often neglected due to limited acute disease evidence and a stronger focus on bacterial hazards. This **review of 25 years of data** calls for standardized fungal monitoring and control protocols to better protect food safety and occupational health in meat processing environments. [Foods](#), 23 pages. (11.04.2025).

★ *Listeria monocytogenes* in pork and ready-to-eat food production

A study in **two Spanish food industry plants** found that ***Listeria monocytogenes*** contamination increased along a **pork processing line** but was effectively controlled in **ready-to-eat (RTE)** food production. Persistent strains were mainly found on **food contact surfaces in pork processing** and on non-food contact surfaces in the RTE facility. The

results highlight the need for improved monitoring, hygiene practices, and facility design to prevent *Listeria* persistence and contamination. [Foods](#), 10 pages. (29.04.2025).

★ Genomic insights into viral diarrhea outbreak after rainfall

Whole-genome sequencing revealed that highly similar **Norovirus** GI.6 [P11] and **Sapovirus** GI.6 strains caused a **post-rainfall diarrhea outbreak in China**. This confirms **simultaneous transmission of multiple viral genotypes through contaminated well water**. The study provides new genomic evidence linking extreme weather to multi-pathogen outbreaks. [Front Micr](#), 15 pages. (28.04.2025).

★ *Salmonella* serovar Mbandaka outbreak in Europe

This study investigated a widespread outbreak of ***Salmonella* Serovar Mbandaka** in Europe, identifying a pre-cooked, frozen chicken product from outside the EU as the source of over 200 infections. Using whole genome sequencing, purchase data, and international collaboration, authorities traced the outbreak and emphasized the **need for better inspection of pre-cooked meat used in ready-to-eat products**. The findings highlight the critical role of **cross-sectoral and cross-border cooperation in managing multi-country foodborne outbreaks** and protecting public health. [Eurosurveillance](#), 7 pages. (06.05.2025).

★ Carbapenemase-producing enterobacterales (CPE) in the food chain

Carbapenemase-producing Enterobacterales (CPE), particularly *E. coli*, *Enterobacter cloacae* complex, and *Klebsiella pneumoniae* complex, have been **detected in food-producing animals** (mainly **pigs**), with plasmids like IncHI2 and IncX3 frequently **carrying resistance genes** such as *blaOXA-48*, *blaOXA-181*, and *blaNDM-5*. CPE occurrence has **increased across EU and EFTA countries**, with notable surges in **Italy, Spain, and Portugal**, but data on aquatic and non-animal foods remain limited, and evidence for transmission through the food chain is still circumstantial. Surveillance methods and contingency plans vary by country, and a coordinated One Health approach is recommended to address detection gaps, identify dissemination pathways, and improve control measures. [FoodNavigator](#), 3 pages. (04.04.2025). Original Publication: [EFSA](#).

CHEMISTRY

★★ Identifying high-risk areas for nitrate contamination in groundwater

Excessive nitrate in groundwater, primarily caused by human activities, is a global issue and a key indicator of groundwater quality in Goal 6 of the UN Sustainable Development Goals (“Clean Water and Sanitation”). Machine learning, specifically **random forest modeling**, was used to **predict nitrate concentrations across Switzerland** at high spatial resolution, revealing that around **35% of the Swiss Plateau is at high risk of exceeding the country's nitrate guideline value** of 25 mg/L. The study also identified anthropogenic and environmental factors influencing nitrate levels, such as land use, springtime precipitation, and soil organic carbon, offering valuable insights for global nitrate risk assessment and mitigation strategies. [Sci Total Environ](#), 11 pages. (02.04.2025).

★★ Human exposure to PFAS in Switzerland

This study analyzed **serum from 630 Swiss adults** for **30 PFAS** using LC-MS/MS, **finding high detection of PFOS** (geometric mean 6.6 ng/mL), **PFOA** (1.3 ng/mL), and **PFHxS** (1.2 ng/mL), which together made up 88% of total PFAS (median 10.3 ng/mL). PFOS was linked to fish (especially freshwater species) consumption; PFOA was negatively associated with breastfeeding duration. PFAS levels varied by region, age, and gender, with some exceeding health-based thresholds but overall aligning with global data. The validated method supports future exposure source tracking and health risk assessments. [Environ Int](#), 10 pages. (06.05.2025).

★★ Health risks of starch-based microplastics challenge bioplastic safety

While **bioplastics** are promoted as eco-friendly alternatives, this study reveals that **long-term exposure to starch-based microplastics (SMPs)**—common in food packaging—can cause **tissue damage, disrupt glucose metabolism, and alter gene expression in mice**. Environmentally relevant SMP doses led to lesions in the liver, intestine, and ovaries, elevated oxidative stress, and insulin resistance linked to circadian rhythm disruption. These findings underscore the urgent need to reassess the safety of bioplastics in food contact applications before scaling up their use. [EurekAlert](#), 3 pages. (09.04.2025). Original Publication: [J Agr Food Chem](#).

★ Methylmercury redistribution due to seafood consumption in high-income countries

Seafood consumption is a key source of exposure to **methylmercury (MeHg)**, a **neurotoxin**, yet the influence of seafood production and trade on MeHg exposure remains poorly understood. In 2019, high-income countries had significantly higher MeHg exposure – ten times that of low-income countries – due to both greater seafood consumption and higher MeHg concentrations in production. Moreover, **seafood trade redistributed 43% of MeHg**, often un-equally,

with exports from high-income to lower-income countries containing higher MeHg levels, potentially contributing to **60'000 premature deaths** and economic losses of \$2.87 trillion. [Nat Food](#), 3 pages. (02.04.2025).

★ **Plastic contamination in cow's milk from different food packaging**

Food packaging plays a vital role in food storage but raises concerns about **plastic contamination**, especially in products like **cow's milk**. This study analyzed 11 milk samples stored in different packaging types and found that multilayer containers contained the highest levels of plastic particles, while PET and glass bottles had lower amounts. Risk assessment confirmed these differences, with additional concerns about different polymers in PET and glass packaging increasing potential hazards. [J Hazard Mater](#), 10 pages. (02.04.2025).

★ **Combined toxicological effects of microplastics with environmental pollutants**

This review examines the **toxicological effects of microplastics (MPs) in combination with environmental pollutants**, such as heavy metals and persistent organic pollutants (POP). MPs, due to their small size and large surface area, can adsorb these contaminants, which then exacerbate their toxicity when introduced into organisms. The combined effects of MPs and their associated pollutants are complex, and the review emphasizes the need for societies and governments to consider these interactions in environmental policies and regulations. [Emerg Contam](#), 11 pages. (02.04.2025).

★ **THC-laced candy at School**

A **THC exposure incident** at a Buffalo (US-NY) school has highlighted **serious food safety risks** posed by **cannabis edibles packaged to resemble familiar candies**, which can easily be mistaken by children or uninformed adults. The affected students ingested **500 mg THC-laced gummies**, underscoring regulatory concerns about inadequate labelling and the growing number of pediatric cannabis exposures. Public health authorities, including the FDA and FTC, have emphasized the need for stricter controls on packaging and labelling of THC products to prevent accidental consumption and ensure consumer safety. [FSN](#), 3 pages. (29.04.2025).

★ **Uptake of PFAS alternatives in hydroponically cultivated lettuce**

This study investigated the **uptake of PFAS (PFOA, PFOS) and PFAS alternatives (GenX, 6:2 CI-PFAES) in lettuce under different nitrogen fertilizers**. Results showed that ammonium sulfate and potassium nitrate significantly **increased the uptake** of GenX, PFOS, and 6:2 CI-PFAES, highlighting the impact of fertilization management on PFAS plant uptake and transport. The findings underscore that **PFAS replacements are also readily absorbed by plants** and may pose similar environmental and health risks. [J Agr Food Chem](#), 15 pages. (23.04.2025).

★ **Novel plant-based foods higher contamination with flame retardants and plasticisers**

The study analyzed various **novel plant-based foods (NPBFs)** using liquid chromatography-tandem mass spectrometry to detect contamination with **organophosphorus flame retardants (OPFRs) and plasticisers**. Plant-based **cheese alternatives** had the highest contamination, suggesting that processing methods and packaging materials are key sources. Compared to animal-based foods, NPBFs showed generally higher levels, raising concerns about increased exposure linked to vegan diets. [Affidia](#), 1 page. (02.05.2025). Original Publication: [Environ Sci Technol Lett](#).

★ **FSA/FSS warning on recycling ocean plastics in food packaging**

The UK Food Standards Agency (FSA) and Food Standards Scotland (FSS) recommend that **ocean bound plastics (OBP) – plastics abandoned in uncontrolled environments like oceans or riverbanks – not be used in food contact materials due to unresolved safety risks**. This policy follows an assessment by the Joint Expert Group for Food Contact Materials, which could not rule out health concerns associated with such recycled plastics. Plastics collected through controlled systems and processed safely remain outside the scope of this recommendation. [New Food Mag](#), 3 pages. (08.05.2025). Original Publication: [FSA](#).

NUTRITION

★★★ **Ultraprocessed food intake and premature mortality in eight countries**

Ultraprocessed food consumption is linearly associated with **increased all-cause mortality**, with a 3% rise in risk per 10% dietary share. In eight countries studied, **4–14% of premature deaths were attributable to ultraprocessed foods**, with the highest burden in the UK and US. These results underscore the need to reduce ultraprocessed food intake through national dietary guidelines and public policy. [New Food Mag](#), 4 pages. (30.04.2025). Original Publication: [AJPM](#).

★ **Potential dangers or restrictive vegan diet**

A recent study of 193 **vegans in New Zealand** found that while most met total protein intake recommendations, about **half did not achieve adequate levels of essential amino acids lysine and leucine** after adjusting for digestibility. **Plant-based proteins generally have lower digestibility and essential amino acid content** compared to animal proteins, making protein quality a key concern in vegan diets. Legumes were the primary sources of protein and lysine,

suggesting that increasing their intake could help improve amino acid adequacy. [Food Navigator](#), 3 pages. (28.04.2025). Original Publication: [PLOS One](#).

★ **Diet and spatial memory: impact of a western-style diet**

A study examined the **effect of a Western-style diet** – high in saturated fats and refined sugars – on spatial navigation using a virtual reality maze. Young adults who frequently consumed such foods showed **poorer memory of object locations**, even after accounting for BMI and non-spatial task performance. The findings underscore the **negative impact of poor dietary habits on cognitive functions**, particularly spatial learning and memory, aligning with previous animal research. [ScienceDaily](#), 3 pages. (06.05.2025). Original Publication: [Int J Obes](#).

FRAUD / DECEPTION

★★ **Manipulating weight of shrimp**

Bangladesh's shrimp industry is vital to its economy, but **fraudulent** traders are harming its reputation and public health by injecting foreign substances to artificially increase shrimp weight. These additives – including water, **antibiotics**, and **steroids** – pose serious health risks, leading to liver, kidney, and heart diseases, as well as hormonal disorders. [Financial Express](#), 1 page. (04.04.2025).

★ **Olive oil fraud grows globally**

Olive oil is a major fraud target. Cases of **olive oil fraud** continue to increase, with multiple reports in 2024. The **sharp rise** in olive oil price has made it an attractive prospect for criminals leading to a spike in cases across Europe and the world. [Food Navigator](#), 3 pages. (08.05.2025). Additional Information: [Sharp rise in olive oil price](#).

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MICROBIOLOGY

★★★ Outbreak of rare *Salmonella* Blockley in the UK

Health authorities in the UK have launched an urgent investigation into a ***Salmonella* Blockley outbreak** that has infected **54 people** across England, Wales, and Scotland between **July 27 and August 24, 2024**, with **10 hospitalizations** and signs of **unusual clinical severity**. Genetic testing confirmed **antimicrobial-resistant strains** of the rare *S. Blockley*, typically found in **East Asia and the US**. The **UK Health Security Agency (UKHSA)** has not yet identified the source. The most affected age group is **50–59 years**, and the outbreak's **resistance to standard antibiotics** raises concerns about treatment efficacy. [Daily Mail](#), 2 pages. (01.04.2025). Additional information: [Food Safety News](#).

★★★ *Bacillus velezensis* and foodborne outbreak

Bacillus velezensis, an aerobic and sporulating bacterium, is utilized in agriculture for its ability to control pests and promote root growth, but it has also been linked to a recent **outbreak** of illness traced to a **bakery's cake**. An investigation revealed that individuals who consumed the cake experienced symptoms consistent with spore-forming bacteria, and the presence of *B. velezensis* was confirmed through testing. Factors such as inadequate pH regulation, insufficient cooking times, and poor cleaning practices contributed to the bacteria's proliferation in the cakes. The study highlights the potential for *B. velezensis* to cause **mild enteric symptoms** while also emphasizing the importance of proper food safety measures to prevent future similar outbreaks. [AEM](#), 17 pages. (28.03.2025).

★★★ *Macrococcus psychrotolerans* from animals, food and human clinical specimens

Macrococci, commonly found on animal skin and mucosa, can also act as opportunistic pathogens. A study characterized ***Macrococcus* sp.** strains from calf, pork and human-related specimens, proposing ***M. psychrotolerans* sp. nov.**, which **grows at 4°C** and carries genetic elements for low-temperature tolerance. Notably, large self-transmissible plasmids with **methicillin resistance** genes were identified, highlighting its **potential role in the food chain** and human infections. The ability of the described microorganisms to grow at refrigerator temperatures, enabled by genes that are predicted to contribute to low-temperature tolerance, raises food safety concerns. [AEM](#), 24 pages. (11.03.2025).

★ **Microplastics linked to increased antimicrobial resistance in foodborne pathogens**

A recent study from Boston University suggests that **microplastics** could contribute to the growing issue of **antimicrobial resistance (AMR) in foodborne pathogens**, such as *Escherichia coli*. The research found that **microplastics promote stronger and thicker biofilms**, which in turn enhance the resilience of pathogens to antibiotics like **ampicillin** and **ciprofloxacin**. The study highlighted that microplastics, especially polystyrene, facilitate the development of drug-resistant bacteria, raising concerns over their role in the spread of AMR in food and the environment. [FoodSafetyMag](#), 3 pages. (18.03.2025). Original publication: [AEM](#).

★ **Salmonella enterica serovar Braenderup shows clade-specific source associations**

This study explores the genomic diversity of **S. enterica ser. Braenderup**, revealing distinct clade-specific source patterns, such as the clade-specific associations with produce and poultry environments, and a higher-than-expected association with epidemiological clusters. By analyzing human clinical isolates from the southeastern USA and comparing them with global isolates, researchers identified different clades **linked to various environments**. These findings improve understanding of potential transmission pathways. [AEM](#), 22 pages. (21.03.2025).

★ **Salmonella Wandsworth and Stanley isolated from insect-based food products**

Detection of *Salmonella* in insects is rarely described, especially in insect-based food stuff. Here, research group reports the genome sequences of two *Salmonella* isolates belonging to *Salmonella enterica* subsp. *enterica* serovars **Stanley** and **Wandsworth** isolated from a **ready-to-eat insect-based food** sample (whole dried salted **crickets**), imported to Germany. [Food Microbiol.](#), 4 pages. (26.03.2025).

★ **Global occurrence of infant botulism: 2007 to 2021**

The study summarizes the global occurrence and epidemiology of **infant botulism (IB)** from 2007 to 2021, analyzing data from various surveillance methods and literature searches. A total of 2,943 cases were identified, with **type A and type B** being the most common toxin types. The median age at onset was 16.8 weeks, and gender ratio was balanced. Notably, patients outside the U.S. had higher rates of intubation and longer hospital stays than U.S. patients, and were more likely to have **consumed honey**. It was suggested to continue educating parents about honey ingestion as one risk factor for IB. [Pediatrics](#), 10 pages. (26.03.2025).

★ **Antimicrobial resistance of zoonotic bacteria isolated from shrimp aquaculture**

Malaysia ranks as the ninth-largest shrimp exporter globally, with shrimp farming covering approximately 51 km². The rise of intensive farming practices has led to increased antimicrobial use, contributing to antimicrobial resistance (AMR). A study identified 47 bacterial isolates from shrimp aquaculture farms, predominantly **Vibrio parahaemolyticus**, along with **Escherichia coli** and **Salmonella**, raising concerns about food safety and the risks associated with consuming aquaculture-produced shrimp. In addition, *Vibrio parahaemolyticus* is noted for its multiple antibiotic resistance genes. [Aquaculture](#), 10 pages. (26.03.2025).

★ **VBNC induction and persistence of Listeria monocytogenes**

Sodium hypochlorite is commonly used as a disinfectant in food processing environments, but **Listeria monocytogenes can persist** despite cleaning efforts, entering a viable but non-culturable (VBNC) state where it cannot form colonies on standard media yet remains metabolically active. This study focuses on the induction of the VBNC state in *L. monocytogenes*, particularly a clinical isolate from a 1983 outbreak, examining its prolonged lag time and the implications of pathogen population heterogeneity and stress-resistant variants on food safety. [Food Microbiol.](#), 10 pages. (09.2025).

★ **FAO publishes report on food safety aspects of precision fermentation**

The UN Food and Agriculture Organization (FAO) recently published a report on the **food safety** aspects of **precision fermentation**, covering nomenclature issues, the production process, and regulatory frameworks. Its conclusions are based on findings from a systematic literature search and consultations with regulators. [FoodSafetyMag](#), 1 page. (01.04.2025). Original Publication: [FAO](#).

★ **Food products confiscated from air passengers**

Illegal food imports from non-EU countries **into the EU** pose a risk for spreading zoonotic and multiresistant bacterial pathogens, as demonstrated by microbiological testing of 100 confiscated food samples at **Frankfurt International Airport**. The study found hygiene deficiencies in 36% of samples, with 17% containing foodborne pathogens, including multiresistant **Staphylococcus aureus**, ESBL-producing Enterobacterales, and a newly assigned **S. aureus sequence type ST8323**. These findings highlight how illegal imports can promote the transmission of resistant and uncommon bacterial strains, posing a potential public health threat. [Food Microbiol.](#), 10 pages. (29.03.2025).

CHEMISTRY

★★★ *In situ* formation of glyphosate

The herbicide active substance **glyphosate** is **formed from detergent additives** such as those found in households. The transformation occurs in sewage treatment plants, but possibly already in the sewage system. From there, glyphosate enters streams and rivers. However, the quantitative extent of this transformation is not yet known. [Spektrum](#), 6 pages. (18.03.2025). Original publication: [Water Res.](#)

★ Rising temperatures increase mycotoxin risk

Rising temperatures due to climate change increase the risk of human exposure to mycotoxins, as reported by the **European Environment Agency (EEA)**. The briefing highlights the health risks associated with **mycotoxins**, which can contaminate crops, food, and feed, leading to endocrine disruption, immune system weakening, liver and kidney damage, increased miscarriage risk, harm to unborn children, and potential carcinogenesis. Vulnerable populations include **young children, infants, pregnant women, and agricultural workers**. [FSN](#), 2 pages. (13.03.2025). Original Publication: [EEA](#), [Affidia](#).

★ Microplastics in food products

Microplastic contamination in food is a growing concern due to its potential health risks, including oxidative stress, immune disturbances, and possibly **carcinogenesis**. This review explores **contamination sources, detection methods, and exposure pathways**, emphasizing ingestion through food and water. It highlights the need for improved detection techniques, regulatory frameworks, and public awareness to reduce microplastic pollution in the food supply. [Emerg Contam](#), 16 pages. (30.01.2025).

★ Microplastic enhances uptake and translocation of arsenic and boscalid by lettuce

Two studies from **Rutgers University** have revealed that microplastics significantly enhance the uptake of pollutants like **arsenic** in plants and human cells, raising food safety concerns. The first study demonstrated that in **lettuce**, exposure to nanoplastics increased arsenic translocation to shoots nearly three times, while the second study showed a **dramatic increase in arsenic absorption** in a human cell model. Similar effects were observed with the pesticide **boscalid**. [NanoImpact](#), 10 pages. (01.2025). Original publication: [Microplastics](#).

★ Polystyrene microplastics induce kidney toxicity

A new study investigates the **nephrotoxic effects** of **polystyrene microplastics** (PS-MPs) using a 3D kidney organoid model derived from human pluripotent stem cells. Exposing kidney organoids to PS-MPs at concentrations of 1.25 to 10 µg/mL for 24 hours resulted in significant reductions in organoid size and nephron-specific markers, alongside increased autophagy and apoptosis in nephron progenitor cells. The research identified DNA damage-inducible transcript 4 (DDIT4) as a key mediator linking PS-MP exposure to inhibited mTOR signaling, whereas silencing DDIT4 mitigated the observed autophagy and apoptosis. [Ecotoxicol Environ Saf](#), 11 pages. (01.04.2025).

★ Low-level fluoride exposure during pregnancy may impact child intelligence

A new study suggests that even low levels of **fluoride exposure** during pregnancy or early childhood may impact a child's intelligence. While fluoride is considered beneficial for dental health, it may pose risks to brain development. Researchers found that such prenatal and childhood urinary fluoride levels were linked to **lower cognitive abilities** – particularly in perceptual reasoning and verbal skills – among children in Bangladesh. [ehp](#), 3 pages. (05.03.2025).

NUTRITION

★★★ Low carb diet may increase the risk of colorectal cancer

A study by researchers at the University of Toronto indicates that **diets low in carbohydrates** may increase the risk of **colorectal cancer** by negatively affecting gut bacteria, specifically colibactin-producing (pks+) *Escherichia coli* linked to polyp development. Mice on low carb diets showed significant disruption in their gut microbiome, creating an environment conducive to cancer. In contrast, the addition of **fiber** to their diets was found to reduce tumor formation and control inflammation. [MedNewsToday](#), 3 pages. (08.03.2025). Original publication: [Nat Microbiol](#).

★ Sugar-sweetened beverage-induced metabolic dysfunction

Consumption of **sugar-sweetened beverages** (SSBs) is linked to metabolic disorders, obesity, diabetes, and cardiovascular diseases. Using a mouse model that mimics chronic human SSB intake, researchers identified the **small intestine** as a key contributor to **systemic glucose imbalance**, alongside the liver and muscles. Their findings suggest that chronic sucrose consumption rewires intestinal molecular mechanisms, leading to **excessive glucose uptake** and contributing to **metabolic diseases** like diabetes and obesity. [EurekAlert](#), 3 pages. (24.03.2025). Original publication: [JNB](#).

★ Slimming supplements with *Garcinia cambogia*

The French National Agency for Food, Environmental and Occupational Safety (ANSES) has issued a warning against the consumption of Malabar tamarind (*Garcinia cambogia*) supplements due to serious health risks, including a fatal case of fulminant **hepatitis** and numerous reports of **liver damage** and other side effects. Despite being marketed for weight loss, the effectiveness of these supplements remains unproven, and many users, including those without prior health issues, have experienced severe adverse effects. [Il Fatto](#), 2 pages. (11.03.2025). Original publication: [ANSES](#).

★ Austria: "Magic mushroom" sweets lead to hospitalizations

In Austria, authorities warn against consuming **chocolate and gummy candies** containing psychoactive mushroom toxins like **psilocybin** and **muscimol**, as more people are being hospitalized after ingestion. These products, sold online or sporadically through vending machines labeled as "non-food items," pose a particular danger to children due to their **candy-like appearance**. Severe health risks include hallucinations, nausea, vomiting, circulatory failure, and even coma, and companies selling such items face legal consequences. [H](#), 2 pages. (17.03.2025). Original publication: [AGES](#).

★ Ultra-Processed Food and its impact on bone and joint health

A review investigates the effects of **ultra-processed food (UPF)** consumption on **bone** health and **joint** diseases, particularly its association with bone mineral density, **osteoporosis**, **osteoarthritis**, and **inflammatory arthritis** such as rheumatoid arthritis. This article summarizes findings from 119 studies, suggesting trends toward **poorer bone health outcomes related to higher UPF intake**, as well as a significant association between UPF consumption and an increased risk of **gout**. [Nutrients](#), 18 pages. (28.03.2025).

ALLERGY

★★ How safe are low doses of food allergens?

A European study (Dec 2020–Dec 2021) on 147 individuals, mostly children, examined **accidental food allergen consumption**. Common triggers – tree nuts, cow's milk, peanuts, and eggs – were often in prepackaged foods, sometimes without proper labeling. Symptom severity varied independently of allergen quantity, highlighting individual sensitivity and **labeling concerns**. [Allergen Bureau](#), (27.03.2025). Original Publication: [Allergy](#).

★ Two additional tick species and red meat allergy

Two studies link bites from **black-legged** (deer) and **western black-legged ticks** to the potentially life-threatening alpha-gal syndrome (AGS), or **red meat allergy**. AGS is an immunoglobulin E (IgE)-mediated allergy to galactose- α -1,3-galactose (alpha-gal), a disaccharide found in most non-primate mammalian meat. It can cause gastrointestinal (GI) symptoms, malaise, and anaphylaxis. [CIDRAP](#), 2 pages. (20.03.2025). Original publications: [Emerg Infect Dis](#), [Emerg Infect Dis](#).

FRAUD / DECEPTION

★★ Switzerland: Meat smuggling and increased food import controls

In 2024, the Swiss Federal Office for Customs and Border Security (BAZG) detected **208 tons of smuggled meat**, imported illegally mostly for commercial purposes to avoid customs duties and taxes. Meat smuggling often involved small, **uncooled shipments** transported in private vehicles or vans, posing economic and **health risks**. The **increase in trade imports**, driven by online commerce, led to more customs declarations and a rise in counterfeit food product seizures. [watson](#), 4 pages. (19.03.2025). Original publication: [BAZG](#).

★ Mislabelling of geographical origin of cod

Cod sold in some European supermarkets is being **mislabelled**, being fished far from its claimed origin, according to a new study. Researchers sampled **cod** sold in **Germany, Spain, France** and the **UK** and found that about 30% of it originated in a location not corresponding to the indication on the label. [Conversation](#), 3 pages. (11.03.2025). Original publication: [Fish. Res.](#).

★ Fake Italian food: counterfeit imports from China raise health concerns

Increasing amounts of **Chinese food products** are being shipped to Italy, raising concerns about fraud and health risks. In Turin, 300 tons of **vegetable seeds** worth €38 million falsely labelled as Italian were seized. Authorities in Genoa found 600 kg of Chinese **peanuts** contaminated with carcinogenic mycotoxins, while officials in Naples intercepted 20 tons of **Chinese food**. Weak origin labelling laws make it difficult to trace **semi-processed imports** like **tomato concentrate**. An investigation in late 2024 found major supermarkets selling Chinese-sourced products as Italian. [PA](#), 3 pages. (17.03.2025). Original publication: [BBC](#).

Close up

New information concerning the [FSVO's early detection system](#) for food safety:

- Signal Report: [ESBL in raw fish and seafood \(in German\) \(PDF, 313 kB, 22.04.2025\)](#)
- Signal Report: [Safety concerns about Tara protein \(in German\) \(PDF, 360 kB, 22.04.2025\)](#)
- Signal Report: [Sweetened and acidic drinks: Risk of tooth erosion \(in German\) \(PDF, 303 kB, 22.04.2025\)](#)
- Signal Report: [Yersinia spp. - Situation in Switzerland \(in German\) \(PDF, 353 kB, 22.04.2025\)](#)

To find out more information about early detection for food safety, visit the [FSVO website](#)

Send your questions and suggestions to the following e-mail address: seismo@blv.admin.ch

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very important info



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MICROBIOLOGY

★★★ EFSA analyzes microbial water quality used in produce processing

European experts have looked into the microbial quality of water used in processing **fresh and frozen fruit, vegetables and herbs**. The microbial quality of water and its industrial use is of concern because **poor quality** can introduce harmful microorganisms into food products. [FSN](#), 2 pages. (10.02.2025). Original Publication: [EFSA](#).

★★★ Prions in muscles of cervids with chronic wasting disease, Norway

This study highlights the systemic nature of **chronic wasting disease (CWD)** in **Nordic wildlife**, revealing that prions are present, beyond the central nervous system, also in the **muscles** and **lymphoreticular system** of infected animals. The detection of prions in **edible tissues** raises concerns about potential human exposure. Moreover, the ability of prions from moose lymph node and muscle to transmit infection to bank voles (*Myodes glareolus*) suggests that CWD strains in Europe may have unique properties compared to those found in North America. [Emerg Infect Dis](#), 10 pages. (02.2025). Additional Information: [BLV Website CWD](#)

★★★ Edible plants as significant sources of *Blastocystis* spp. infections

A systematic review and meta-analysis investigated the global prevalence and subtype distribution of *Blastocystis* spp. in **edible plants**, analyzing 27 studies covering 8794 samples from 15 countries. The findings revealed that **9.4%** of the examined edible plants were contaminated with *Blastocystis* spp.. The study also identified zoonotic subtypes ST1 and ST3 in these plants, underscoring the potential risk of transmission through contaminated food and the need for improved food safety measures to mitigate this risk. [Food Wat Parasitol](#), 10 pages. (03.2025).

★ *Escherichia albertii* in retail chicken outlets in Bangladesh

A study in Bangladesh found a high occurrence of **multidrug-resistant *Escherichia albertii*** in retail **chicken** meat. Clonal links between strains from meat, chicken cloaca, and human hands suggest cross-contamination, indicating retail chickens as a potential **vector for zoonotic transmission**. [Int J Food Micr](#), 9 pages. (02.03.2025). Additional Information: [BLV Signal Report *Escherichia albertii*](#)

★ **Climate change and *Campylobacter* in chicken meat**

The article examines the relationship between climate change and the risk factors associated with campylobacteriosis linked to chicken meat consumption, which is the most widely consumed meat globally. It highlights that climate change, characterized by **rising temperatures**, increased **humidity**, and **extreme weather** events, is likely to exacerbate the seasonal peaks of *Campylobacter* prevalence in broilers and retail chicken. [Food Contr](#), 12 pages. (07.2025).

★ **Cyclospora - United States, 2018–2021**

Seasonal outbreaks of cyclosporiasis occur annually in the U.S. To investigate this, the CDC developed a genotyping system to cluster nonclonal eukaryotes and analyzed *Cyclospora* cluster consensus genotypes (CCGs) from 2018 to 2021. The analysis identified specific produce items associated with infections, including **cilantro (coriander)**, **mango**, and **onion** for *C. ashfordi*, and **iceberg lettuce**, **carrot**, and **cauliflower** for *C. cayetanensis*. [Emerg Infect Dis](#), 11 pages. (02.2025).

★ **Pathogenicity of atypical diarrheagenic *Escherichia coli* from a foodborne outbreak**

In June 2021, an outbreak of diarrheal illness linked to school lunch **milk** cartons in **Japan** affected over 1,800 individuals, with *Escherichia coli* OUT (OgGp9:H18) identified as the cause. Although this strain **lacks typical *E. coli* virulence factors**, genomic and animal studies revealed that it carries a plasmid encoding coli Surface antigen CS8 and a type VI secretion system (T6SS), contributing to its pathogenicity. The study found that both the plasmid and chromosomal elements, including additional secretion systems and a capsule gene cluster, play roles in virulence, highlighting the potential of atypical diarrheagenic *E. coli* to cause foodborne illness. [Int J Food Microbiol](#), 10 pages. (26.02.2025).

★ **Multidrug-resistant *E. coli* in Egyptian dairy linked to Japanese outbreak**

This study investigated the prevalence of **potentially pathogenic and antimicrobial-resistant *Escherichia coli*** in raw milk and dairy products from two **Egyptian** governorates, finding an overall contamination rate of 26.2%, with buffalo milk being the most affected. **Virulence and toxin genes** were detected, and some strains exhibited cytotoxic and hemolytic activity, with 11.9% showing multidrug resistance. Notably, one of the *E. coli* strains (OgGp9:Hg18), isolated from the samples collected in 2018 in Egypt, had the same characteristics as the *E. coli* that caused food poisoning in **Japan's** central Toyama Prefecture in 2021 carrying a complete type 3 secretion system 2 (ETT2) and multidrug resistance. [EurekAlert](#), 3 pages. (03.03.2025). Original Publication: [Int Dairy J](#).

★ **ESBL Enterobacterales in municipal wastewater, Switzerland, 2019–2023**

A recent study quantified presumptive extended-spectrum β -lactamase-producing *Escherichia coli* and *Klebsiella*, *Enterobacter*, *Serratia*, and *Citrobacter* group (KESC) colonies from wastewater in **Basel, Switzerland**, across 3 years to represent before, during, and after the COVID-19 pandemic. The study shows an increase in presumptive ESBL-producing *E. coli* and KESC in 2021 and 2023, particularly in samples containing hospital wastewater, suggesting a disproportionate **increase of ESBL KESC** within healthcare settings compared with the community and possibly explained by less adherence to infection prevention and control procedures. [Emerg Infect Dis](#), 3 pages. (03.03.2025).

★ ***Shigella flexneri* outbreak linked to a takeaway, Wales**

In February 2023, 52 cases of gastrointestinal illness were reported in customers of takeaway A, **South Wales**. *Shigella flexneri* serotype 2a was the causative organism. An outbreak investigation was conducted to determine the extent and vehicle of the outbreak. **Coleslaw** was the most likely vehicle. Though the contamination route is unknown, a food handler is the most likely source. Although **uncommon** in the UK, ***S. flexneri*** should be considered as a cause of **foodborne outbreaks**. [Epidemiol Infect](#), 8 pages. (14.02.2025).

★ **Increase in *Cryptosporidium* spp. in England and Wales, Autumn 2023**

The parasite *Cryptosporidium* causes cryptosporidiosis, a gastrointestinal infection resulting in diarrhea usually lasting about 2 weeks. A research team identified the **largest increase** to date of *Cryptosporidium* spp. reports in England and Wales (mostly *Cryptosporidium hominis*), in August to September 2023. This increase in number of cases of *C. hominis* followed **unusual weather patterns** in summer 2023. International travel and swimming pool use were linked to the increase, suggesting multiple causes for the finding. [Eurosurveillance](#), 10 pages. (06.03.2025).

★ **Norovirus cases in England remain high, emerging GII.17 genotype**

Norovirus cases in England remain high, with a 15% increase in hospital bed occupancy compared to the previous week, although there was a slight decrease of 4.7% from week 7 to 8 of 2025. The total number of **laboratory-confirmed norovirus cases** (9,958) during this period was **more than double the five-season average**, and **39 norovirus outbreaks** were reported to hospitals, **clearly above the seasonal norm** of 23. The dominant strain this season has been genogroup 2 (GII), with **GII.17 accounting for 54.5%** of identified cases, while rotavirus cases have increased but remain within expected levels. [BBC](#), 3 pages. (30.01.2025, updated 13.03.2025). Original Publication: [UKHSA](#). Additional Information: [CDC Norovirus Data](#), [UKHSA warns of potential second norovirus wave](#).

CHEMISTRY

★★★ Contaminated water from Fukushima nuclear powerplant

A study examines the global implications of the **Fukushima** (Japan) nuclear powerplant contaminated water discharge into the Pacific Ocean, which began in August 2023, highlighting significant threats to marine ecosystems and **human health**. It introduces the Fukushima Contaminated Water Risk Factor (FCWRF), assessing risks through **radionuclide diffusion**, **bioaccumulation**, and global **seafood trade**. Findings indicate that risks could exceed baseline levels by over two orders of magnitude across six continents, with the spread of these risks occurring six times faster than radionuclide diffusion. [Environ Sci Technol](#), 10 pages. (03.02.2025).

★★★ Microplastics discovered in human brain tissue, linked to dementia

Recent research shows that human brains contain about a **spoonful of microplastics**, with dementia patients showing 3-5 times higher concentrations. The findings, highlighted in a new Brain Medicine Commentary, reveal worrying trends in brain tissue contamination and possible links to **neurological disorders**. [EurekAlert](#), 2 pages. (04.03.2025). Original Publication: [Brain Medicine](#), [Nat Med](#).

★★★ Current and emerging issues in chemical food safety

A review highlights the growing impact of global challenges on food safety, particularly focusing on **natural toxins** in plant-based foods and the influence of **climate change**. It discusses current and **emerging issues**, including the health effects of **nanomaterials**, the risks posed by **mycotoxins** due to climate change, and the challenges and opportunities associated with **next-generation plant-based foods**. The selection of topics reflects concerns that are significant now and are expected to remain important in the future. [Curr Opin Food Sci](#), 10 pages. (13.02.2025).

★★★ Irrigation-dependent accumulation of microcystin in different crops

This study examines the cyanobacterial toxin **microcystin-LR** (MC-LR) accumulation in **strawberries**, **carrots**, and **lettuce** irrigated with contaminated water in a mid-scale greenhouse. MC-LR was detected in lettuce leaves and various parts of strawberries, especially after spray irrigation, while results for carrots were inconclusive. Findings highlight strawberries' vulnerability, emphasizing the need for risk mitigation when using contaminated water for irrigation. [J Agric Res](#), 8 pages. (04.2025).

★★★ Possible links between PFAS exposure and childhood cancers

A study from a research group at the University of California, Irvine has revealed possible links between exposure to per- and polyfluoroalkyl substances (PFAS) in drinking water and an increased risk of certain childhood cancers. Researchers analyzed data from 10,220 children up to age 15 diagnosed with cancer between 2000 and 2015, along with 29,974 healthy children. They estimated maternal PFAS levels by linking geocoded addresses at birth to local **water** district contamination data and determined that higher concentrations of two PFAS – **perfluorooctanesulfonic acid** (PFOS) and **perfluorooctanoic acid** (PFOA) – were associated with certain childhood cancers. [EurekAlert](#), 2 pages. (26.02.2025). Original Publication: [Environ Epidemiol](#).

★ Association between exposure to PFAS and chronic cough

A recent study investigates the association between exposure to **per- and polyfluoroalkyl** substances (PFAS) and chronic cough in **American** adults, utilizing data from the National Health and Nutrition Examination Survey (NHANES) from 2003 to 2012. The research highlights that chronic cough, affecting about 10% of the global population, may be an **independent disease** rather than just a symptom. The findings indicate that higher serum levels of perfluorobutane sulfonic acid (**PFBS**) and perfluoroheptanoic acid (**PFHP**) are linked to an increased risk of chronic cough, particularly in adult males. [Ecotoxicol Environ Saf](#), 8 pages. (02.2025).

★ Glycerol in slush ice drinks

Slush ice drinks can contain **glycerol** as a substitute for sugar to create the slush effect. The UK Food Standards Agency (FSA) has issued new voluntary industry guidance on glycerol in slush ice drinks, advising that they should not be sold to children four years of age and under. A FSA risk assessment found that children below this age may suffer from headaches and sickness caused by exposure to glycerol. [FSA](#), 1 page. (10.08.2023). Additional Information: [Slush ice drinks linked to illness in children](#), [FSAI provides advice on slush ice drinks for young children](#), [Slush ice: Glycerin contained in it can cause headaches and nausea Ökotest](#), [BfR](#).

★ Global mycotoxin surge in 2024: rising risks

A recent survey involving nearly 28,400 samples from 95 countries has revealed a significant increase in the prevalence of mycotoxins in 2024, posing threats to animal welfare and agricultural sustainability. All six main mycotoxins, including aflatoxin and fumonisins, showed rising levels, particularly in regions like North and Central America, South Asia, and parts of Europe and the Middle East. Co-contamination was prevalent, with 70% of samples containing multiple mycotoxins. [AllAboutFeed](#), 2 pages. (25.02.2025). Additional Information: [What is the mycotoxin risk per region?](#), [dsm-firmenich](#).

★ Micro- and nano-plastics make other pollutants more dangerous

Micro- and nanoscale **plastic** particles in soil and water can significantly increase how much **toxic chemicals** plants and human intestinal cells absorb, according to two new studies that raise new concerns about food safety from plastic pollution. [NanoImpact](#), 10 pages. (01.2025). Additional Information: [Ingested Polystyrene Micro-Nanoplastics Increase the Absorption of Co-Ingested Arsenic and Boscalid in an In Vitro \[...\] Model](#).

★ Study reveals surprising insights on mycotoxins T-2 and HT-2

An analysis (2016-2024) of 3,900 food samples by the Chemical and Veterinary Inspection Office (CVUA) of Baden-Württemberg, Germany, unexpectedly found T-2 and HT-2 **mycotoxins** in foods such as **vegetable oils** and **apple juice**. While only 0.2% of cereal samples exceeded EU limits, hemp and maize germ oils had the highest concentrations (10-20 µg/kg). Of 168 apple juice samples, 21% contained more than 2 µg/kg, with a peak of 69 µg/kg, mainly HT-2. [Affidia](#), 1 page. (13.02.2025). Original Publication: [CVUA Stuttgart](#).

NUTRITION

★ Maternal western diet and neurodevelopmental disorder risk

Maternal diet during pregnancy may influence child neurodevelopment, yet its impact remains understudied. This study analyzes dietary patterns at 24 weeks of pregnancy and neurodevelopmental disorders at 10 years in the COPSAC2010 cohort (n = 508), finding a **significant association between a Western dietary pattern** (high in fat and sugar and low in fresh ingredients) **and increased risk of attention deficit hyperactivity disorder (ADHD) and autism**. Validation in three independent cohorts (n = 59,725; n = 656; n = 348) using dietary modeling, maternal and fetal blood metabolomics identifies 15 mediating metabolites, with longitudinal analyses confirming early–mid-pregnancy as a critical window for intervention, underscoring the need for targeted prenatal dietary strategies to reduce neurodevelopmental disorder risk. [EurekAlert](#), 3 pages. (04.03.2025). Original Publication: [Nat Metab](#).

★ The impact of carbohydrate consumption for toddlers

In toddlers, the negative impact on health risks later in life is more pronounced for digestible dietary carbohydrate intake in liquid forms, such as **sugar-sweetened beverages** and **fruit juice**, compared with solid forms. Higher nondigestible carbohydrate (dietary fiber) intake during early childhood showed a beneficial trend on later lipid profile. [FoodNavigator](#), 3 pages. (10.02.2025). Original Publication: [ILSI](#).

★ Ultra-processed foods (UPF) linked to an increased risk of cognitive impairment

A high proportion (~65%) of food products purchased by **US households** are considered ultra-processed foods (UPF). A study involving 4,750 middle-aged and older adults found that the consumption of UPF is linked to an increased **risk of cognitive impairment**, with specific categories of UPF, such as **animal products** and **sugar-sweetened beverages**, showing a stronger association with later cognitive decline. [Am J Clin Nutr](#), 10 pages. (12.02.2025).

★ Aspartam triggers insulin spike leading to blood vessel inflammation in mice

From diet soda to zero-sugar ice cream, artificial sweeteners provide sweetness to food with reduced sugar content. However, new research shows that the sweetener aspartame may impact **vascular health**. A team of cardiovascular health experts and clinicians found that aspartame triggers increased insulin levels in animals, which in turn contributes to **atherosclerosis buildup of fatty plaque** in the arteries, which can lead to higher levels of inflammation and an increased risk of heart attacks and stroke over time. [EurekAlert](#), 2 pages. (19.02.2025). Original Publication: [Cell Metab](#).

★ High-Fat/High-Sucrose diet increases Alzheimer's disease risk more than genetics

In this study, male and female ApoE ε4 carrier and wildtype rats were placed on a **high-fat and high-sucrose diet** (HFD/HSD) for four months, and brain function was analyzed using resting-state blood oxygenation level dependent BOLD functional connectivity. The ε4 allele of apolipoprotein E (ApoE ε4) is a **known genetic risk factor for Alzheimer's disease**, while a HFD/HSD also contributes to cognitive decline. The results showed that **diet had a stronger impact than genetics**, with male wildtype rats exhibiting cognitive deficits and enhanced connectivity in brain regions related to feeding and metabolism, while no significant differences were observed between female and male carriers. [FoodNavigator](#), 4 pages. (25.02.2025). Original Publication: [BMC Neurosci](#).

★ Association between nighttime snacking during pregnancy and postpartum depression

A prospective cohort study investigated the relationship between **nighttime snacking** frequency during pregnancy and the incidence of **postpartum depression** (PPD) among 609 community-dwelling pregnant women. Data were collected through self-administered questionnaires, and PPD was assessed using the Edinburgh Postnatal Depression Scale. The findings revealed that women who snacked at night three or more times a week had a significantly higher odds ratio (OR) of **developing PPD** (2.59) compared to those who snacked less than once a week. [Eur J Clin Nutr](#), 10 pages. (03.03.2025).

ALLERGY

★ Toxicity and allergy risks of alternative plant protein sources

This systematic literature review highlights that emerging **alternative protein sources from plants**, such as cowpea, quinoa, and mung beans, may pose **toxicity and allergy risks**, with some protein products containing secondary metabolites like antinutritional factors and phytoestrogens, which can cause adverse effects at certain levels. While processing may reduce some risks, there is limited knowledge on how the processing steps affect toxicity and allergenicity in commercial products. As plant-based foods become more prevalent in sustainable diets, comprehensive food safety assessments, considering both ingredient and food-level risks, are essential to protect consumers from potential adverse health effects. [Comp Rev Food Sci FS](#), 14 pages. (05.03.2025).

FRAUD / DECEPTION

★ Rioja wine fraud

The Spanish Guardia civil, in coordination with Europol, Interpol and Vietnamese police authorities, has dismantled a criminal network that operated between **Spain, Vietnam and China**, dedicated to counterfeiting **Rioja** Qualified Designation of Origin (Denominación de Origen Rioja) wines in the so-called "Operation Epigraph". [Ministerio del Interior](#), 1 page. (06.02.2025).

★ Melatonin application alleviates chilling injury in persimmon (kaki) fruit

The study investigates the effects of **melatonin** (MLT) dip treatment, modified atmosphere packaging (MAP), and their combined application on reducing chilling injury (CI) in 'Fuyu' **persimmon (kaki)** fruit stored at 0 ± 1 °C for up to 60 days. Results show that the combined treatment significantly decreased CI incidence, ethylene production, and oxidative stress while preserving fruit quality by maintaining texture properties and enhancing the antioxidant system. [Food Packaging Shelf](#), 12 pages. (03.2025). Additional Information: [BLV Signal Report Melatonin](#)

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MICROBIOLOGY

★★★ Genome based characterization of *Yersinia enterocolitica* in Switzerland in 2024

Yersinia enterocolitica causes food-borne gastroenteritis, but its genetic diversity and pathogenic potential in food remain unclear. In a recent study, *Y. enterocolitica* strains were isolated from 32% of **pork**, 25% of **chicken**, and 22.7% of **produce** samples at **Swiss retail** in 2024. Whole-genome sequencing identified 45 sequence types and 76 plasmids. Three pork isolates were BT 4, each carrying a pYV-like plasmid with 44 virulence factors. Six isolates **matched** strains from **human cases** in Switzerland. [Infect Genet Evol](#), 39 pages. (28.01.2025).

★★★ *Echinococcus* spp. and other taeniid species in lettuces and berries

The article discusses the prevalence of *Echinococcus* spp. and other **taeniid** species in **lettuces** and **berries**, highlighting their significance as foodborne parasites. 1117 lettuce and 480 berry samples from 12 European countries (including Switzerland), Tunisia and Pakistan were analysed for the detection of taeniid DNA. *E. multilocularis* DNA was detected in 1.2% of lettuce, 5.4% of strawberry, and 7.3% of blueberry samples in European endemic countries (France, Italy, Latvia, Poland and Portugal). *E. granulosus* DNA was detected in 1.3% of lettuce, 1.5% of strawberry, and 1.3% of blueberry samples in European endemic countries. [Int J Food Micro](#), 10 pages. (16.02.2025).

★★★ Fatal H5N1 avian flu case linked to sick chickens in Cambodia

A **28-year-old man** from Kampong Cham province, Cambodia, has died from an **H5N1 avian flu** infection after **handling and consuming sick chickens**. This marks the 19th human case in Cambodia since early 2023, with recent cases linked to the **2.3.4.4b clade**, known for its global spread among birds and occasional human infections. [CIDRAP](#), 1 page. (13.01.2025). Original Publication: [Facebook](#). Additional Information: [Translation of the official statement \(Facebook\) of the Cambodian Ministry of Health](#).

★★ *Helicobacter suis* in pork products

Helicobacter pylori is the best-known representative of the *Helicobacter* genus. It can cause ulcers in the stomach and duodenum in humans. *Helicobacter suis* is suspected of causing similar pathologies. The suspected route of infection is handling or eating **raw or undercooked pork**. In Spain, researchers have tested commercially available pork products from local butchers for *H. suis*. *H. suis* was detected in 20 of 70 samples (28.6%). [Int J Food Micr](#), 9 pages. (16.01.2025).

★ *Yersinia* spp. pathogenic potential

Yersinia intermedia, *Y. frederiksenii*, and *Y. kristensenii* are foodborne pathogens often overlooked despite their pathogenic potential. These species are commonly found in various food sources, including fruits and vegetables, meat products, frozen items, etc. A genomic analysis of 199 genomes revealed *Y. intermedia*'s genetic diversity and antimicrobial resistance genes. *Y. kristensenii* had the highest number of virulence genes. [Int J Food Micr](#), 10 pages. (16.02.2025).

★ Pathogens and planetary change

Emerging infectious diseases, biodiversity loss, and anthropogenic environmental change are **interconnected crises** that exacerbate the **risk of pandemics** and wildlife die-offs. Land-use change and biodiversity loss often lead to increases in **zoonotic** and **vector-borne diseases**, highlighting the need for pathogen surveillance, conservation interventions, and strengthened health systems. Addressing these risks requires comprehensive strategies that integrate monitoring of high-risk viruses, protecting wildlife health, and improving global epidemic preparedness and response. [Nat Rev Biodivers](#), 18 pages. (01.2025).

★ *Listeria monocytogenes* in plant-based milk alternatives

The growing popularity of **plant-based milk alternatives** has raised concerns about their safety and nutritional implications. A recent study examined the growth, biofilm formation, and cryotolerance of *Listeria monocytogenes* in almond, oat, soy, and bovine milk, revealing similar growth rates at 4°C but varying tolerance to repeated freezing and thawing cycles. *L. monocytogenes* cells grown in almond and soy milk showed decreased tolerance when compared to cells grown in oat and bovine milk. [Foodb Path Dis](#), 10 pages. (11.12.2024).

★ Chlorination-induced spread of antibiotic resistance genes in drinking water systems

Chlorination was found to increase the relative abundance of both extra- and intracellular **antibiotic resistance genes** (ARG). This process also promoted genetic mutations and horizontal gene transfer, further facilitating the **dissemination of ARG**. Additionally, the formation of disinfection byproducts, biofilms, and the presence of micropollutants were identified as key contributors to the spread of ARG. [Water Res](#), 12 pages. (15.04.2025).

★ Human case of dibothriocephalosis linked to fish consumption

This report describes a case of **dibothriocephalosis** caused by the fish tapeworm *Dibothriocephalus latus* (*Diphyllbothrium latum*), linked to the consumption of infected fish near Lake Iseo, Italy. The species identification via molecular analysis updates regional epidemiology, with no reported cases in the past 10 years. These findings emphasize the need for enhanced food safety practices and awareness to mitigate public health risks. [Pathogens](#), 6 pages. (21.01.2025).

★ *Shewanella* species in oysters and seawater

A recent study evaluated the abundance of marine bacterial *Shewanella* species in oysters and seawater from the Chesapeake and Maryland Coastal Bays (**USA**) at four sites between 2019 and 2021. Results suggest that **virulent strains** of *Shewanella* may be present in oysters and seawater from the Chesapeake and Maryland Coastal Bays. [Front Micr](#), 10 pages. (10.01.2025).

★ Dark kitchens and food safety

The rise of dark kitchens (aka. virtual restaurants), i.e. food businesses that operate exclusively by delivery and pick-up, has **transformed the takeaway food sector**, presenting both challenges and opportunities for **food safety** inspections. Since March 2020, the U.K.-based food delivery company Deliveroo has reported a 70% increase in average order volume per dark kitchen, highlighting their growing popularity amid the surge in online food delivery applications. However, managing food safety, particularly regarding **allergen** and cross-contamination issues in shared spaces, poses significant challenges. [Food Contr](#), 10 pages. (25.01.2025). Additional Information: [Inspectors' and Industry's Perspectives on the Food Safety Challenges of Dark Kitchens](#).

★ Is *Bacillus cytotoxicus* from edible insects a threat?

Bacillus cytotoxicus is an emerging foodborne pathogen, primarily studied in vegetables but less explored in other food sources. A recent study from Italy investigates its genomic and phenotypic traits in 20 strains isolated from **edible insects**, revealing thermotolerance, proteolytic activity, and possible trade-related links between isolates. The

findings highlight the pathogen's adaptation to different food niches and emphasize the need for careful assessment and treatment calibration to mitigate food safety risks. [BW](#), 10 pages. (02.02.2025).

★ Hydroponic agriculture and microbial safety of vegetables

Hydroponics is a soil-free farming technique that enables high yields with less water and fewer chemicals, making it a sustainable option. While it reduces soilborne diseases and chemical contamination, it does not guarantee plant health or **microbial safety**, as pathogens can spread rapidly through water. A recent review discusses **microbial risks**, safety measures, and the need for Good Agricultural Practices (GAP) to ensure safe hydroponic produce. [Horticulturae](#), 21 pages. (03.01.2025).

★ Azole fungicide resistance in *Aspergillus* fungi

The extensive use of **azole** fungicides, particularly in some agricultural and horticultural practices, can increase the risk of ***Aspergillus*** fungi developing resistance to essential antifungal treatments. This significant finding is highlighted in a report by the five EU health and environment agencies, with support from the European Commission's Joint Research Centre (JRC). [EFSA](#), 3 pages. (30.01.2025). Original Publication: [EFSA](#).

★ Chronic wasting disease prions in raw, processed, and cooked elk meat

A recent article describes chronic wasting disease (CWD) prion detection in **raw** and **cooked meat** from a CWD-positive elk (*Cervus canadensis*). Limited zoonotic potential in CWD prions from those meat products was found. Nonetheless, risk for **transmission** to humans is still **unclear**, and monitoring of circulating and emerging CWD prion strains for zoonotic potential is warranted. [Emerg Infect Dis](#), 2 pages. (02.2025).

CHEMISTRY

★★★ Mycotoxins: A potential etiological factor for neurodegenerative diseases?

Mycotoxins are potential environmental risk factors for **neurodegenerative diseases**. These toxins penetrate the central nervous system via a compromised blood-brain barrier, which may cause oxidative stress and neuroinflammation. They can contribute to amyloid-beta (A β) plaque accumulation, tau protein hyperphosphorylation, and neurofibrillary tangle formation. Mycotoxins also **activate microglia**, cause neuronal apoptosis, and disrupt central nervous system function. This study examines the evidence linking mycotoxin exposure to neurodegenerative disorders like **Alzheimer's** and **Parkinson's** diseases [Toxicol](#), 10 pages. (02.2025).

★★★ Release of microplastics from ultrafiltration membrane system for drinking water treatment

Drinking water has emerged as an important route for **microplastics** (MP) to enter the human body, prompting concerns about their adverse health impacts. Membrane filtration technology is widely recognized as an effective treatment solution for combating MP pollution in water. However, recent research disputes that polymeric membrane systems may serve as **additional sources of MP** in drinking water. [Water Res](#), 10 pages. (15.04.2025).

★★★ Dietary exposure and risk assessment to organophosphate flame retardants and plasticizers

Flame retardants, particularly **phosphorous flame retardants** (PFR) and **plasticizers**, are commonly used in consumer products to reduce fire risks, but they can easily leach into the environment. A study analyzing the presence of these chemicals in various food categories in Sweden found that pastries, fats and oils, and meat substitutes had the highest levels of PFR, while fatty dairy products and cereals showed **significant plasticizer contamination**. [Food-Contr](#), 10 pages. (06.2025).

★ Levels of heavy metals in tropical fruits

This study assessed the levels of **heavy metals**—**lead**, **mercury**, **cadmium**, **arsenic**, and **chromium**—in tropical fruits and soils from agricultural crops in Antioquia, **Colombia**, and evaluated the associated health risks from consumption. Samples of Hass avocado, cape gooseberry (physalis), and purple passion fruit were collected, revealing that **all exceeded regulatory limits** for mercury, lead, and arsenic, with the highest concentrations found in avocado for mercury and passion fruit for lead. [Food and Humanity](#), 23 pages. (10.01.2025).

★ Global groundwater sulfate contamination

Sulfate concentrations in **groundwater** exceed 250 mg/L (World Health Organisation, WHO) in 156 countries, affecting approximately 194 million people, with 17 million exposed to levels above 500 mg/L. A random forest model identified annual precipitation and sedimentary rocks as primary contributors, while other factors showed region-specific influences. These findings emphasize the necessity of integrating sulfate monitoring into water safety management to mitigate health and infrastructure risks. [EurekAlert](#), 3 pages. (04.02.2025). Original Publication: [Environ Sci Technol](#).

NUTRITION

★★★ Red meat consumption and increased dementia risk

A study found that consuming **red meat**, particularly processed forms, increases the **risk of dementia**, with those eating more than ¾ ounces (ca. 21 g) per day having a **13% higher risk** than people with very limited consumption. The research, involving 133,771 participants over decades, highlighted that replacing processed red meat with **alternatives** like fish or legumes could **lower dementia risk by 20%**. The findings emphasize the need to consider diet's role in cognitive health, linking meat consumption to accelerated cognitive aging and highlighting potential mechanisms linked to compounds like trimethylaminoxid (TMAO) and saturated fat. [EurekAlert](#), 2 pages. (16.01.2025). Original Publication: [Neurology](#). Additional Information: [The Conversation](#).

★★★ Functional non-alcoholic drinks

Non-alcoholic drinks are gaining popularity in Europe, with **functional varieties** leading the trend. First came **spirits** infused with lion's mane (*Hericium erinaceus*), a fungus, as well as yerba mate and damiana (*Turnera diffusa*) for mood enhancement. Then, functional **wines** with adaptogens, ashwagandha (*Withania somnifera*), and the fungus reishi (*Ganoderma sichuanense*) emerged to reduce stress and improve sleep. Now, functional **beers** harness natural nootropics and adaptogens to promote relaxation. [FoodNavigator](#), 3 pages. (06.02.2025).

★ Too much sugar in low-cost brands

A survey by the consumer association Foodwatch reveals that **low-cost brand products** often contain higher levels of added **sugar** compared to more expensive alternatives, even in unexpected items like **peas, mayonnaise, and peanuts**. The study analyzed over **400 products** across various categories and found that cheaper options can have significantly more sugar, with examples showing a 43% increase in sugar content in budget peas compared to pricier brands. [BFM](#), 3 pages. (15.01.2025). Original Publication: [FoodWatch](#). Additional Information: [Results as PDF table](#)

★ Association of ultra-processed food-related metabolites with selected biochemical markers

A recent study investigated the relationship between metabolites associated with **ultra-processed foods** (UPF) and various biochemical markers in a cohort of 72,817 participants from the **UK Biobank**. It revealed that high UPF consumption correlates with **increased levels of inflammatory markers** like C-reactive protein (CRP) and altered hormonal functions, including insulin signaling and reproductive hormones. [Nutr J](#), 14 pages. (31.01.2025).

ALLERGY

★ Analysis of trends and allergenicity risk assessments in novel food

The analysis of novel food (NF) approvals in the **European Union** from **2018 to 2023** revealed that out of 117 applications, most were new NF (61, i.e. 52.1%) or modifications (38.5%), with an average approval procedure time of 38 months. Allergenicity assessments were identified as a challenge, with only 13 of the new NF undergoing *in silico* protein sequence homology tests and 6 undergoing immunological analyses. Approximately **47.5%** of new NF approvals were considered to entail **possible allergenicity risks**. [Food Chem Toxicol](#), 40 pages. (22.01.2025).

★ Edible insects and food allergy

The European Union and Switzerland approved certain **insect species for consumption**. Their consumption may pose risks such as **food allergies**. Studies in Asian populations indicate that edible insects may be responsible for up to 19% of food allergies and for 18% of fatal food-induced anaphylaxis. Reports from Europe of food allergies to edible insects are increasing. [Foods](#), 18 pages. (15.01.2025).

FRAUD / DECEPTION

★ Risk of document fraud in laboratory results

The National Food Crime Unit (NFCU) of the UK Food Standards Agency has issued an 'Amber' Food Crime Alert on the **Risk of Document Fraud** in Laboratory Results. There has been an increase in the use of **fraudulent laboratory results** being seen in issues that have been investigated by the National Food Crime Unit. [FAN](#), 1 page. (22.01.2025).

★ 'Aphrodisiac honey' seized in France

French customs officials warn against consuming illegally imported "aphrodisiac honey," mixed with erectile dysfunction **drugs**. Record seizures in 2024 include 13 t (860,000 units) found in Marseille from Malaysia. Similar products are increasingly found in **Germany** and the **Netherlands**. [CNN](#), 1 page. (21.01.2025). Additional Information: [X Rated Honey For Men contains hidden drug ingredient \(FDA, 2022\)](#), [Acute cardiovascular disorders related to aphrodisiac honey \("Jaguar power"\) consumption: Warning of unintentional exposure to sildenafil](#).

★ Mozzarella di Bufala Campana DOP: 475 fakes reported

The Consortium for the Protection of Mozzarella di Bufala Campana DOP reported 475 cases of **counterfeit buffalo mozzarella** sold online in 2024, highlighting the vulnerability of the iconic Italian product to food fraud, particularly in digital marketplaces. With over 75% of these fraud cases occurring on popular platforms like Amazon and eBay, scammers often **abused the DOP designation** or used misleading packaging to deceive consumers. [QE](#), 2 pages. (05.02.2025).

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MICROBIOLOGY

★★★★ Infectivity and persistence of influenza A virus in raw milk

Influenza A viruses (IAV), including **HPAI H5N1**, pose public health risks, with concerns about transmission via raw milk. A study conducted in the USA showed that IAV **H1N1 PR8 persisted in raw milk at 4°C for 57 days**, with a 99% inactivation (T99) within 2.3 days, while **pasteurization eliminated infectious virus but minimally reduced viral RNA**. These findings emphasize the importance of pasteurization and have implications for food safety and environmental surveillance of influenza viruses. [Environ. Sci. Technol. Lett.](#), 10 pages. (17.12.2024).

★★★ Prevalence of antibiotic resistance genes in processed smoothies

Plant-derived foods can carry **antimicrobial resistance genes (ARGs)**, posing health risks when consumed raw or minimally processed. An Austrian study found the highest ARG and mobile genetic element (MGE) loads in **freshly prepared smoothies** and the lowest after **high-pressure processing (HPP)** which reduced microbial loads and destroyed extracellular DNA. [Foods](#), 23 pages. (25.12.2024).

★★★ *Escherichia albertii* and the potential transmission by meat in retail

Escherichia albertii is increasingly recognized as a foodborne pathogen, but its detection and transmission remain challenging due to limitations in isolation and identification methods. In a Belgian study of 292 meat samples from retail sources, *E. albertii* was detected in a small percentage (3.9–4.5%) of **chicken** samples but not in beef or pork, though transmission through these meats cannot be ruled out. *E. albertii* was present in 0.4% of the 2419 clinical stool samples examined. [Microorganisms](#), 18 pages. (23.11.2024).

★★★ Household dogs as a transmission point for AMR salmonella

Household dogs may be overlooked transmission points for **antimicrobial-resistant (AMR) nontyphoidal Salmonella (NTS)**, a pathogen linked to foodborne outbreaks and serious public health risks. A Penn State (USA) study found close genetic links between human and dog-associated NTS strains, emphasizing the need for improved **hygiene practices** and awareness of **zoonotic** risks in domestic settings. [EurekAlert](#), 3 pages. (10.01.2024). Original Publication: [Zoonoses](#).

★ Prevalence of *Vibrio* spp. in seafood from German supermarkets and fish markets

A study on **seafood** from Berlin supermarkets and fish markets found *Vibrio* spp. in 56% of samples, with higher prevalence in fish markets (91%) compared to supermarkets (50%). The most common species were *V. parahaemolyticus* (58%) and *V. alginolyticus* (42%), though no virulence genes were detected. [Foods](#), 10 pages. (11.12.2024).

★ Possible chronic wasting disease spillover into people

The Center for Infectious Disease Research and Policy (CIDRAP) at the University of Minnesota, USA, published a comprehensive report aimed at improving surveillance, research, and response to a potential **chronic wasting disease (CWD) spillover** from cervids such as deer to people or farm animals. [ProMed](#), 3 pages. (09.01.2025). Original Publication: [CIDRAP](#).

★ Microplastics and antimicrobial resistance

The study investigates the combined effects of **polystyrene (PS) microplastics** and **di (2-ethylhexyl) phthalate (DEHP)** on the transfer of **antimicrobial resistance genes (ARGs)** between bacteria. It finds that this combination enhances ARG transfer more than either substance alone, with strongest effects observed at specific concentrations. While both PS and DEHP individually increased conjugative transfer rates, their combined effect was lower than expected, suggesting antagonistic interactions. [Ecotoxicol Environ Saf](#), 10 pages. (11.10.2025).

CHEMISTRY

★★ Nanoagrochemicals may present food safety risks

Agrochemicals are used extensively, but inefficiencies lead to economic and environmental harm. **Nanoagrochemicals** offer a sustainable alternative, enhancing crop yields while reducing environmental impact through targeted delivery. The small size of nanoagrochemicals can lead to their **penetration** into the roots of crops, transportation to shoots, and accumulation in edible organs. However, their large surface areas also can adsorb **pollutants** and co-transport them to these same edible organs, ultimately increasing food safety risks. [JAgrFoodChem](#), 2 pages. (03.01.2025).

★★ Microplastic exposure from breastmilk storage bags

A Chinese study on six popular **breastmilk storage bag** brands revealed they release **micro** and **submicron sized particles** (e.g., polyethylene, PET, nylon-6) during simulated use. Infants consuming breastmilk stored in such bags may **ingest** particles at a rate of 0.61–0.89 mg/day, raising concerns about exposure to microplastics. [Environ. Pollut.](#), 10 pages. (06.01.2025).

★★ Z15 nanomaterial in wastewater treatment and potential risks

Z15, an **iron oxide nanomaterial** coated with folic acid, is used as a nanoscale flocculant in 5,000 EU wastewater treatment plants, with biosolids recycled onto agricultural land. Its persistence in biosolids raises concerns about **potential entry into the food chain** and **associated toxicity** due to its high surface-to-volume ratio and resistance to biodegradation. [FoodSafetyMag](#), 4 pages. (07.01.2025). Original Publication: [EFSA](#). Additional Information: [EFSA's activities on Emerging Risks in 2023](#).

★ Acrylamide levels in dried fruits

Acrylamide, a carcinogenic and mutagenic substance, was analyzed in dried stone fruits as part of the 2023 monitoring. Results showed significant differences between treatments and fruits: sulfur-treated apricots had lower acrylamide levels, while untreated apricots, prunes, and dates showed higher concentrations. Only a few dried cherry samples contained detectable acrylamide, highlighting variations among fruits and the potential of sulfur treatment to reduce acrylamide formation. [BVL](#), 2 pages. (10.12.2024). Original Publication: [BVL](#).

★ Micro- and nano-plastics from containers amplify the toxic response of disinfection by-products

Micro- and nanoplastics (MNPs) released from containers, such as feeding bottles and paper cups, increase significantly after hot water treatment, with higher risks for infants. While **MNPs alone** showed **no toxicity**, they amplified the toxicity of disinfection by-products (DBPs) in drinking water, with up to 58% **synergistic effects** in HepG2 cells. [Food-Chem](#), 10 pages. (01.04.2025).

★ *Penicillium roqueforti* in plant-based veined-blue cheese: mycotoxin hazards?

A study investigated the potential **mycotoxin** hazards associated with using *Penicillium roqueforti* in plant-based blue cheese. The mycotoxin production capacity of 15 *P. roqueforti* strains from both Roquefort and non-Roquefort populations was assessed. Additionally, a microbiological challenge tested various plant and animal matrices, finding that animal matrices were more susceptible to **andrastin A** contamination, while cashew and soy matrices favored the production of **roquefortine C** and **mycophenolic acid**. [FoodContr](#), 10 pages. (31.12.2024).

★ Microplastics in seafood

Microplastics and **anthropogenic particles** (APs) were found in 180 of 182 **seafood** samples, including black rockfish (*Sebastes melanops*), lingcod (*Ophiodon elongatus*), Chinook salmon (*Oncorhynchus tshawytscha*), and shrimp, with pink shrimp (*Pandalus jordani*) showing the highest AP concentrations (>10 AP/g). Retail-purchased seafood often had higher contamination levels than vessel-retrieved samples, suggesting added pollution during processing. [FoodSafetyMag](#), 2 pages. (09.01.2025). Original Publication: [Front Toxicol](#).

NUTRITION

★★ Weight-loss drugs – impact on communication?

Access to **anti-obesity drugs** like Ozempic and Wegovy could be a lifesaver for millions of people around the world. But symptoms for the underlying pathology should not be confused: a dysfunctional food system that is endangering health. Is there a possibility that communication efforts towards healthy eating are undermined? [PS](#), 2 pages. (19.12.2024).

★ Health implications of plant-based meat alternatives

Consumption of **plant-based meat alternatives** (PBMA) among vegetarians is rising, with no significant differences found in sodium, sugar, or saturated fat intake between consumers and non-consumers. PBMA consumers showed higher blood pressure, elevated C-reactive protein levels, a 42% increased risk of depression, and a 40% reduced risk of irritable bowel syndrome (IBS). These findings suggest potential inflammatory concerns linked to PBMA. [EurekAlert](#), 3 pages. (19.12.2024). Original Publication: [Food F](#).

★ The impact of social media on disordered eating

This study investigates the correlation between **social media use** and **disordered eating symptoms** among Israeli college students, highlighting the impact of unrealistic beauty standards and unhealthy weight-loss practices prevalent on these platforms. Conducted with 580 participants, the research found that increased social media engagement, particularly with food-related content, was associated with higher levels of disordered eating and body dissatisfaction, especially among women. [Nutrients](#), 14 pages. (03.01.2025).

★ Meat alternatives using metamaterials

Engineers from The Hebrew University of Jerusalem have created an innovative method for producing **analogue meat whole cuts** using **metamaterials** (i.e. artificially structured materials that exhibit properties derived from these structures). This work uses advanced materials science to replicate the texture and structure of traditional meat. The result is a scalable, cost-effective method of producing meat alternatives that surpasses existing 3D printing technologies. [NewFoodMag](#), 2 pages. (09.01.2025). Original Publication: [NatureComm](#).

★ Salt use patterns and heavy metal urinary excretion

Salt usage patterns have been linked to diseases, but their relationship with **heavy metal** exposure is unclear. Analysis of the National Health and Nutrition Examination Survey data from 11,574 U.S. participants showed significant associations between **salt usage** patterns and urinary levels of heavy metals, including **molybdenum, arsenic, cadmium, barium, lead** and **thallium**. These findings suggest potential increased exposure to heavy metals, consistent across sensitivity analyses. [FrontNutr](#), 4 pages. (10.01.2025).

★★★ **Honey authenticity testing in German supermarkets**

German and European Beekeeping Associations tested 30 **honey** samples from German supermarkets using a new **DNA sequencing** method in an Estonian laboratory. Results revealed that 25 of 30 samples were **adulterated**, with potential addition of **fructose syrup** mimicking bee-produced sugar profiles. The test highlights a widespread issue of honey adulteration affecting beekeepers' livelihoods across Europe. [20Min](#), 2 pages. (12.12.2024). Original Publication: [EPBA](#). Additional Information: [ORF Konkret](#).

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