



Seismo Info 12/2022



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The FSVO compiles the most important food safety information every month:

[FSVO website](#)

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

Microbiology

★★★★ **“Harmless” *Listeria* species developing pathogenic resistance:** Food-borne bacteria *Listeria innocua* and *Listeria welshimeri* are often regarded as harmless, compared to the deadly *Listeria monocytogenes*. But both of these species are developing an unexpected number of harmful characteristics that can make food safety measures more difficult to maintain, according to a Whole-Genome Sequencing study from South Africa. Some strains of *L. innocua* and *L. welshimeri* analysed have virulence and resistance genes identical to those of *L. monocytogenes*. [EurekAlert](#), 3 pages. (05.12.2022). Original Publication: [MicrSpectr](#).

★★★ **European risk of foodborne illness from *Vibrio* rising:** Foodborne illnesses are projected to rise due to the effects of climate change, reports the European Environment Agency (EEA). In particular, *Vibrio* poses a threat to the safety of seafood sourced from the Baltic Sea. According to the report, the prevalence or outbreaks of many water- and foodborne diseases is affected by climatic conditions, or is exacerbated by extreme weather events such as heavy rain and flooding. *Vibrio* flourishes in warm water of moderate salinity, and the pathogen has one of the fastest replication times of any studied bacteria, making it extremely responsive to environmental change. [FoodSafetyMag](#), 1 page. (11.11.2022). Original Publication: [EEA](#).

★★★ **Rising energy prices may endanger food safety:** Food safety could suffer as part of the problems caused by rising energy prices, according to several European and British industry groups. The European Fresh Produce Association, warned that product freshness, quality, and safety may be at risk without proper temperature-controlled storage and microbiological contamination will be heightened if cold chains are cut. [FSN](#), 2 pages. (12.11.2022).

★★ **COVID-19 virus on food and food packaging:** Research was commissioned to measure the **rate of inactivation** of virus on the surface of various types of **food and food packaging**. The study's results shows that the survival of the COVID-19 virus varied depending on the contaminated foods and food packaging. On some foods, such as cheese and ham, the virus survived for several days. On others, such as apples and olives, **virus levels dropped quickly**. For most food products tested there was a 'significant drop' in the levels of virus contamination over the first 24 hours. Food packaging materials tested had variable virus survival. Based on these results, the UK Food Standards Agency (FSA) has determined that, while the likelihood of catching the virus from food varies by surface type, the **risk is "very low" overall**. [FoodSafetyMag](#), 2 pages. (29.11.2022). Original Publication: [FSA](#).

★★ **Risk of Monkeypox virus (MPXV) transmission through the handling and consumption of food:** A newly published **qualitative risk assessment** aimed to investigate the probability that Monkeypox virus (MPXV) **transmission** occurs through **food** during its handling and consumption. The assessment concluded that only **bush-meat** was suspected to be a source of MPXV. [MicrRiskAnalysis](#), 13 pages. (12.2022).

★ **Food safety aspects of edible insects:** A recent study of available scientific **literature** suggests that, when cooked or processed in certain ways, **edible insects** can be a safe food product. Food safety considerations for the commodity were explored in the review, including microbiological **contaminants, anti-nutritive factors, pesticide residues, toxic heavy metals, mycotoxins, and allergens**. Research has demonstrated high counts of microorganisms to be present in fresh insects; however, with the appropriate thermal treatment, microbial loads can be eliminated. [FoodSafetyMag](#), 2 pages. (08.11.2022). Original Publication: [Insects](#).

★ **Foodborne *Listeria* outbreak associated with deli goods:** A **multistate outbreak** in the U.S. of ***Listeria monocytogenes*** infections associated with **meat** and **cheese** from deli counters has resulted in 13 hospitalizations, one death, and one miscarriage. Whole genome sequencing (WGS) data shows that meat and cheese from deli counters contaminated with *L. monocytogenes* are making people sick. Investigators are **still working to identify any specific products or delis** that may be contaminated with the outbreak strain. [FoodSafetyMag](#), 1 page. (11.11.2022). Original Publication: [CDC](#).

★ **Energy savings in the food industry:** A major actor in the food industry is **warming up its ice cream freezers** and reformulating products to withstand higher temperatures to help tackle emissions. [FoodNavigator](#), 2 pages. (28.11.2022).

★ **One Health *Campylobacter* risk model:** Researchers have built a **new risk model** for possible **human *Campylobacter* outbreaks** that leverages data on **weather patterns** and the presence of *Campylobacter* on **broiler farms**. The developers of the model hope to disseminate the information it produces through a website that can generate warnings when appropriate. The model follows a "**One Health**" approach, in that data from the animal, human, and environmental sectors were combined to **predict human gastrointestinal illness (GI) outbreaks**. [FoodSafetyMag](#), 2 pages. (29.11.2022). Original Publication: [Eurosurveillance](#).

★ ***E. coli* O121 outbreak due to frozen falafel:** A **multistate outbreak of *E. coli* O121** infections, first reported around Oct. 7, is over, the American federal Centers for Disease Control and Prevention reported. Epidemiologic, laboratory, and traceback data showed that **frozen falafel** sold at a supermarket chain made people sick. A total of **24 people infected** with the outbreak strain of *E. coli* O121 were reported from 6 states. [FSN](#), 2 pages. (02.12.2022). Original Publication: [CDC](#).

★ **Microbiological safety of pre-packed salads:** In 2021, more than 400 samples of **pre-packed salads** were examined by the German Food Safety Authorities. Presumptive ***Bacillus cereus*** were detected in almost every second sample (46.7 %). **Shiga toxin-producing *E. coli*** and ***Listeria monocytogenes*** were also found to a lesser extent. Since salads are eaten raw and the germs are thus not killed by heating, the German Federal Office of Consumer Protection and Food Safety (BVL) advises sensitive consumer groups to refrain from eating pre-packed salads as a precaution. [BVL](#), 1 page. (01.12.2022).

★★★ **Microplastics in guts of fish:** A recent study has estimated the **annual microplastics intake** by adult humans based on the presence of microplastics found in the gastrointestinal tracts of 160 fish species. Based on the size classes estimated for the study, the researchers believe that **close to 15 percent of the microplastics** found in the guts of the assessed fish have the **potential to translocate through the fishes' gut barriers** into their muscles. The contaminated muscles are then ingested by humans, and may subsequently translocate to other **human organ tissues**. [FoodSafetyMag](#), 1 page. (18.11.2022). Original Publication: [FoodContr](#).

★★★ **Phthalate from food packaging and tumor growth:** Scientists have demonstrated a causal link between di-2-ethylhexyl phthalate (DEHP), a **phthalate commonly used in food packaging**, and **uterine fibroid growth**. DEHP is one of the most widely used phthalates in consumer goods, and it has been associated with a number of negative health consequences. The scientists discovered that **exposure to DEHP** may **activate a hormonal pathway** that triggers an environmentally responsive receptor to bind to DNA and cause **increased growth of fibroid tumors**. [FoodSafetyMag](#), 1 page. (21.11.2022).

★★★ **Feeding hemp to dairy cows: impact on milk:** A new publication presents the results of a **feeding experiment** with industrial **hemp silage in dairy cows**. Hemp feeding included changes in feed intake, milk yield, respiratory and heart rates, and behaviour. The **transfer of several cannabinoids to milk** was also estimated. For **Δ9-THC**, the **acute reference dose for humans was exceeded** in several consumer groups in exposure scenarios for milk and dairy product consumption when using industrial hemp to feed dairy cows. [NatureFood](#), 15 pages. (14.11.2022). Additional Information: [BfR](#).

★★ **Arsenic in children's snacks:** A British broadcaster's investigation into **inorganic arsenic** levels in rice has questioned the safety of products aimed at children like **rice cakes** and **rice-based breakfast cereals** - although all companies implicated say their levels fall within current recommendations. [BakeryAndSnacks](#), 2 pages. (15.11.2022).

★★ **Safety of alternative milks:** Milk alternatives **contain more ingredients than just water and nuts or seeds** - from different fortifications with vitamins and nutrients to some types of additives. As these alternatives exhibit different sensory characteristics, stability, and nutritional composition compared to animal milk, an article reviews popular types of alternative milk and provides an **overview of their related safety concerns**. [FoodSafetyMag](#), 3 pages. (21.11.2022).

★★ **Bioplastic coating against aflatoxins:** Researchers from the U.S. Department of Agriculture's Agricultural Research Service (USDA's ARS) are using a **bioplastic coating** to naturally shield seeds from *Aspergillus*, a type of fungi that produces **aflatoxin**. The new method involves coating seeds with a protective, innocuous strain of *Aspergillus*, delivered via a mixture of **biodegradable, corn starch-based bioplastic and biochar**. [FoodSafetyMag](#), 1 page. (05.12.2022). Original Publication: [USDA](#).

★ **Experts advise against assuming all PFAS equally toxic:** A panel of experts have advised against assuming that all per- and polyfluoroalkyl substances (**PFAS**) are equally **toxic** and potent, also providing other opinions on PFAS grouping and risk assessment. Additionally, the experts held the opinion that comprehensive **human health risk assessment** for a representative mixture of PFAS is not currently feasible. [FoodSafetyMag](#), 2 pages. (08.11.2022). Original Publication: [Regul. Toxicol. Pharmacol.](#)

★ **Cake decorative powders:** An article published by the ANSES (the French Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail) discusses **cake decorative powders**, used for "Cake design" - **are they always edible?** [Vigil'ANSES](#), 2 pages. (11.2022).

★ **Intoxications from poppy seeds: Poppy seeds not meant for human consumption** are behind a number of **poisonings** in Australia, according to health officials. Investigators found the non-food grade poppy seeds incorrectly entered the food supply chain. Poppy varieties rich in the chemical compound **thebaine** are used to produce medicines and are grown in Australia to supply the **pharmaceutical industry** - it is however not possible to tell which seeds have high thebaine content by just looking at them. [FSN](#), 1 page. (17.11.2022). Original Publication: [FSANZ](#).

★ **Passion fruit peel as edible coating:** New research suggests **passion fruit peel** offers 'significant potential' to **preserve fresh fruit and fresh cuts** in an **edible coating** thanks to high levels of antioxidants and polyphenols. This could help reduce food waste and decrease our reliance on plastic packaging, South African scientists suggest. [FoodNavigator](#), 2 pages. (21.11.2022). Original Publication: [Antioxidants](#).

Nutrition

★★★ **Popular dietary supplement causes cancer risk, brain metastasis:** While previous studies have linked **commercial dietary supplements** like nicotinamide riboside (NR), a form of vitamin B3, to benefits related to cardiovascular, metabolic and neurological health, new research has found NR could actually increase the **risk of serious disease**, including developing **cancer**. The international team of researchers discovered high levels of NR could not only increase someone's risk of developing triple-negative breast cancer, but also could cause the cancer to metastasize or spread to the brain. [EurekAlert](#), 1 page. (11.11.2022). Original Publication: [BiosBioel](#).

★★★ **Ultraprocessed foods and cognitive decline:** Researchers found in a study that included 10,775 adults from an ethnically diverse sample that a **higher percentage** of daily energy consumption of ultraprocessed foods was **associated with cognitive decline**. These findings support current public health recommendations on limiting ultraprocessed food consumption because of their potential harm to cognitive function. [EurekAlert](#), 1 page. (05.12.2022). Original Publication: [JamaNeurol](#).

★★ **Green tea extract may harm liver:** Long-term use of **high-dose green tea extract** may provide some protection against cancer, cardiovascular disease, obesity and type 2 diabetes, but it also may create **liver damage** in a **small minority of the population**. [EurekAlert](#), 1 page. (01.12.2022). Original Publication: [JDietSuppl](#).

★ **Food labels won't help tackle obesity:** Labels showing how much physical activity is needed to burn the calories ingested from the food have no impact on tackling obesity, according to the largest study of its kind in the UK. [FoodNavigator](#), 1 page. (09.11.2022). Original Publication: [Plos Med](#).

★ **Liquorice intoxication:** Consumption of large amounts of **liquorice-based** products can lead to **intoxication**. The ANSES (the French Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail) has analyzed 64 cases of reported intoxications between 2012 and 2021, half of the cases were severe and **one fatality** was reported. [Vigil'ANSES](#), 3 pages. (11.2022).

★ **Poor diet damages blood vessels:** New research shows how **bad eating** habits **molecularly** promote the development of **diverse diseases**. A German team found out that metabolic disease affects blood vessels in different organs of our body in a unique way. For instance, blood vessels in the liver and fat tissue **struggle to process the excess lipids**, kidney vessels develop **metabolic dysfunction**, lung vessels **become highly inflammatory**, and transport across the **brain vessels** is defective. [EurekAlert](#), 1 page. (18.11.2022). Original Publication: [NatureMetabolism](#).

Fraud / Deception

★ **Alcohol in alcohol-free drinks:** In Switzerland, the Zurich cantonal laboratory was able to **detect alcohol** in five out of 25 **alcohol-free drinks**. The test was to show whether the promises made on the label were actually true. [FoodAktuell](#), 1 page. (18.11.2022). Original Publication: [KLZH](#).

★ **Adulteration of spices and oil:** Adulteration of spices and oil are **on the rise** in many districts in India. Traders of **adulterated oil, cumin seeds, red chili powder, and other commodities** are setting up their warehouses near the **wholesale markets** of the cities, while the production of these commodities takes place in densely populated residential areas or in the suburbs. [siasat](#), 1 page. (05.12.2022).

Thank you for your fidelity, Happy Holidays and see you in 2023!

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Microbiology

★★★★ **Microplastics and water-borne viral transmission:** A newly published Australian Study found is that **viruses can hitchhike on microplastics** and prolong their infectivity, which means there could be an increased risk of virus transmission throughout waterways and the environment. The authors conclude that, because microplastics can potentially accumulate viruses and travel through waterways, it **might be risky** to eat seafoods harvested from **areas where they are frequently contaminated by microplastics**. [NewsMedLifeSc](#), 2 pages. (02.11.2022). Original Publication: [WaterRes](#).

★★★ **Salmonella Litchfield in salmon:** Salmon with *Salmonella sickens 33* in several American states. The outbreak strain, *Salmonella* Litchfield, was traced back to fresh, **raw salmon**. Whole genome sequencing (WGS) showed that bacteria from sick people's samples are **closely related genetically**, which suggests that people in this outbreak got sick from the same food. [FoodPoisonJournal](#), 2 pages. (20.10.2022). Additional Information: [FDA](#).

★★★ **Gut microbiota produce diverse host cell genotoxins:** Unexpected members of the gut microbiota produce diverse host cell **genotoxins**. Bacteria can **damage our genetic material** and play a role in the development of **bowel cancer**. Studies over the past two decades indicate that genotoxic gut bacteria, which damage or mutate DNA, are **critical drivers of colorectal cancer (CRC)** pathogenesis. [SRF WissenschaftPodcast](#), 1 page. (29.10.2022). Original Publication: [Sci](#).

★★★ **Probiotic cultures in fresh pasta:** Italian research has discovered a **new recipe** that can **extend the shelf life of fresh pasta** by 30 days through packaging changes and ingredient additions. The method involves changing the ratio of modified atmosphere packaging (MAP) gasses and combination of plastic films used in the packaging to control microbial growth and impermeability. The researchers also added a **multi-strain probiotic mixture** to inhibit the growth of bacteria. [NewFoodMag](#), 3 pages. (03.11.2022). Original Publication: [FrontMicr](#).

★★★ **S. aureus strains Isolated from food handlers:** A recent study has provided insight into the prevalence of **Staphylococcus aureus** on the **hands** of foodservice **employees**, as well as the pathogenicity and antimicrobial resistance (AMR) of *S. aureus* isolates. [FoodSafetyMag](#), 2 pages. (03.11.2022). Original Publication: [Microorganisms](#).

★ **Salmonella Typhimurium outbreak linked with frozen tomato cubes:** A *Salmonella* Typhimurium **outbreak** has been associated with **frozen tomato cubes** at a restaurant in western Finland, from January to February 2021. *Salmonella* isolates were characterized in detail using **whole genome sequencing** (WGS) and cluster analysis by core genome multilocus sequence typing (cgMLST). There were **49 cases**; 23 were laboratory-confirmed infections with a multidrug-resistant *S. Typhimurium*. [Eurosurveillance](#), 20 pages. (13.11.2022).

★ **3D printed mycoprotein:** A new method of treating **mycoprotein** to make it suitable for 3D printing has been developed. The company is exploring its potential in **vegan seafood** whole cuts. [FoodNavigator](#), 2 pages. (13.10.2022).

★ **Spice containers pose contamination risk during food preparation:** A government-funded study on the **potential for cross-contaminating** kitchen surfaces with pathogens **during food preparation** has pointed to an unlikely culprit for spreading sickness: spice containers. [EurekAlert](#), 2 pages. (19.10.2022). Original Publication: [JFod-Prot](#).

★ **Change of consumer behaviour due to energy crisis:** A worrying fifty percent of **consumers in Scotland** have admitted to eating food which has passed its '**use-by**' date in order to save money, research by Food Standards Scotland (FSS) reveals. Around 10% of respondents had changed the temperature of the thermostat in their **fridge**, with a further 2% turning their **fridges off** for a period of time to reduce energy bills. This survey of the Food Standards Scotland shows that the cost of living crisis is driving consumer behaviour with the potential to negatively impact **public health**. [FSS](#), 2 pages. (27.10.2022). Original Publication: [FSS](#).

★ **Climate change:** As climate change **threatens global food supplies**, countries will need to increase the efficiency of food production, bringing about **short-term gains**, such as decreased deforestation, but **long-term risks**, including future pandemics stemming from animal-borne diseases, finds a new analysis. [EurekAlert](#), 2 pages. (02.11.2022). Original Publication: [ScienceAdv](#).

★ **Biogenic amines in cheese:** Researchers from Agroscope and INRAE investigated the **formation of biogenic amines in raclette cheeses** by the bacterium *Morganella morganii*. They concluded that *M. morganii* grows well in the cheese and can form biogenic amines, particularly **putrescine** and **cadaverine**. In order to better gauge the health risk to consumers, safety questions on this type of bacteria should also be clarified, according to the scientists. [Agroscope](#), 3 pages. (03.10.2022). Original Publication: [IntDJ](#).

Chemistry

★★★ **Transferable tigecycline resistance gene in Escherichia coli from pigs:** Regarding antimicrobial resistance (**AMR**), transferable resistance to the antibiotic **tigecycline** in bacteria from livestock has been reported by the UK Animal and Plant Health Agency (APHA) for the first time. Tigecycline, which is not authorized for use in livestock, is a last-resort, critically important antimicrobial that is used to treat **multidrug-resistant bacterial infections** in humans. [FoodSafetyMag](#), 2 pages. (18.10.2022). Original Publication: [JAntimicrobChemother](#).

★★★ **Glyphosate in pregnancy:** High exposure to **glyphosate** in pregnancy could cause **lower birth weights** in babies. In a study higher glyphosate levels were associated with lower birth weight and may also lead to higher **neonatal** intensive care unit admission risk. [EurekAlert](#), 1 page. (17.10.2022). Original Publication: [Environ Health](#).

★★ **Proteins "made from air":** A company has developed a **protein grown with CO2 and electricity**. It has now received regulatory approval from the Singapore Food Agency (SFA), and **commercial launch** is planned for 2024 [FoodNavigator](#), 1 page. (26.10.2022). Original Publication: [SolarFoods](#).

★★ **Edible coating based on nanoemulsions encapsulated with plant essential oils:** A newly published review gives an overview of the physicochemical properties of **essential oils-loaded nanoemulsions**. Because of the antibacterial and antifungal properties of essential oils, their application in **edible coatings** for food preservation are discussed. [FoodContr](#), 13 pages. (03.2022).

★ **Edible sensor for frozen food:** Researchers have developed a novel, food-grade, edible **sensor** that can alert consumers to frozen products that have previously been **thawed and refrozen**. The sensor, made of safe ingredients such as table salt, red cabbage, and beeswax, provides a color readout when it is exposed to a specific temperature, which can be set from 14°C to 0°C. [FoodSafetyMag](#), 1 page. (14.10.2022).

★ **Heavy metals in supermarket herbs and spices:** A consumer organisation tested a batch of 70 **dried herbs and spices** from a variety of popular brands. All samples had traces of **lead** and many had traces of **arsenic, antimony, cadmium and mercury**, with some higher than others. [Choice](#), 1 page. (14.10.2022). Original Publication: [CR](#).

★ **Printable circuits:** Scientists have developed a technology that can **print functional circuits** onto items, including **fruit**. [EurekAlert](#), 2 pages. (26.10.2022). Original Publication: [ACSAppMat&Int](#).

Nutrition

★★ **Ultra-processed foods during pregnancy:** A recent study shows that the **consumption of ultra-processed foods** by mothers during the child-rearing period was linked to an **increased risk of overweight or obesity** in their offspring during childhood or adolescence. These findings suggest that women of reproductive age **should limit the intake** of ultra-processed food to reduce the risk of overweight and obesity in their children. [MedNewsToday](#), 4 pages. (12.10.2022).

★★ **TikTok perpetuates toxic diet culture:** New research from the University of Vermont, in the U.S., finds the **most viewed content** on TikTok relating to **food, nutrition and weight** perpetuates a **toxic diet culture** among teens and young adults and that **expert voices are largely missing** from the conversation. [EurekAlert](#), 2 pages. (01.11.2022). Original Publication: [PlosOne](#).

★★ **Raw vegan diet may be a risk:** Taking the **vegan diet** to the extreme, choosing **only to eat raw plant foods** that can be consumed without any cooking may have more risks than benefits. [Conversation](#), 1 page. (02.11.2022).

★★ **Plant-based diets - iodine deficiency?:** **Iodine deficiency** is potentially a **rising problem** as we move towards **plant-based diets**. It could result in the 'cognitive underperformance of communities at a large scale', scientists warn. [FoodNavigator](#), 2 pages. (04.11.2022).

★ **Trend analysis: more and more people living vegan in Switzerland:** As the first comprehensive report by Swissveg shows, the **upward trend** of recent years is continuing: According to new survey results, more than 300,000 young people and adults in Switzerland will be eating a **vegetarian diet** in 2022, and around 42,000 will be **vegan**. Meat alternatives in particular are also experiencing a big boom. [Swissveg](#), 8 pages. (2022).

★ **Ultra-processed food consumption linked to premature, preventable death:** A recent study analysed how the intake of **ultra-processed** foods was **associated with premature, preventable death**. Researchers found that ultra-processed food consumption **may be the attributable cause of death** in a significant percentage of deaths in the Brazilian population. The findings demonstrate the **importance of reducing the intake of ultra-processed foods** to minimize health risks. [MedNewsToday](#), 3 pages. (07.11.2022). Original Publication: [AmJPrevMed](#).

Allergy

★★★ **A common dietary fiber linked to allergy-like response:** A recent study suggests that the **dietary fiber inulin** can alter the composition and metabolism of **gut microbiota**, resulting in a type-2 inflammatory response, which is typically observed in response to **allergic respiratory conditions**. The study calls into question the relationship between diet, immunity, and usually beneficial prebiotics—in this case, inulin, a dietary fiber commonly used in anti-inflammatory supplements. [MedNewsToday](#), 5 pages. (08.11.2022). Original Publication: [Nature](#).

★★ **Anaphylaxis associated with food supplement:** The National Agency for Food, Environmental and Labour of France (ANSES) reports cases of **grade 3 anaphylaxis** associated with the consumption of a **specific food supplement**. [anses](#), 12 pages. (20.09.2022).

★ **New trend: giving babies allergens to prevent them developing:** A start-up has unveiled a product to **prevent peanut allergies in babies**. Research has found that early childhood exposure to peanut decreases the risk of developing peanut allergy and found that this **tolerance to peanut remains** after one year of not eating peanuts. [FoodNavigator](#), 3 pages. (02.11.2022).

Fraud / Deception

★★ **Fraud hits Polish feed industry:** In early October, Polish police **detained 4 people** for suspected fraud, accusing them of **selling oils to numerous feed mills** across the country classified for industrial use only. Polish news outlets Wirtualna Polska and Onet reported, citing sources in the police that allegations at the time of writing were limited to the period from January 2020, but **the illegal practice could have begun as early as 2017**. [AllAboutFeed](#), 1 page. (02.11.2022).

★★ **Ginger fraud:** The **ginger supply chain** from China to the EU comprises nine stages and is **medium vulnerable** to food fraud, both in regard to opportunities and motivational drivers. In a study, ginger was used as an **example for interpreting the fraud issues** within low-priced and high-trade volume spice products. The most vulnerable ginger products are **ground ginger** and finely **processed ginger**. [Sci Food](#), 16 pages. (04.11.2022).

★ **Stolen goods making their way into supermarkets:** An investigation has established how **organised crime** gangs across Britain are running a sophisticated operation **stealing** from lorries and selling the goods back into the legitimate **supply chain**, with 'amazing' profit margins. [inews](#), 3 pages. (08.10.2022).

★ **Olive oil price increase:** Olive oil **prices increased** at an "unprecedented" rate this week, after a dry September prompted speculation this year's Spanish olive **harvest could be down by half** compared with last year. [TheGrocer](#), 2 pages. (14.10.2022).

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Microbiology

★★★★ **Pervasive *Listeria monocytogenes*:** Pervasive *Listeria monocytogenes* is common in the Norwegian food system and is associated with increased prevalence of stress survival and **resistance** determinants. [FoodSafetyMag](#), 1 page. (12.09.2022). Original Publication: [AEM](#).

★★★★ **Multi-drug resistant *Salmonella* Thompson in pork:** Scientists characterized a **multi-drug resistant (MDR) *Salmonella* Thompson** isolate recovered from a retail **ready-to-eat (RTE) pork product** in China. This suggests that Chinese RTE pork products are a **possible source of human infection** with pathogenic extended-spectrum cephalosporins (ESCs) and fluoroquinolone (FQs) co-resistant *S. Thompson*. [FrontMicr](#), 11 pages. (15.09.2022).

★★★ **Disinfectant's efficacy against norovirus:** A new study found that **total formulation** (the active ingredients and non-active ingredients) **significantly impacts** a surface sanitizer or disinfectant's **efficacy** against norovirus – the leading cause of foodborne illness in the United States. [Futurity](#), 3 pages. (12.09.2022). Original Publication: [AEM](#).

★★★ ***Cryptosporidium* outbreaks likely being missed in France:** Foodborne sources of *Cryptosporidium* outbreaks are **probably underestimated** in France, according to a study. Considering cryptosporidiosis in France as a reportable disease and a stronger focus from public health agencies could greatly improve reporting, said researchers. [FSN](#), 2 pages. (16.09.2022). Original Publication: [FoodWatParasitol](#).

★★★ ***Listeria* cases in Italy due to contaminated sausages:** Six deaths and at least 61 people affected: this is the toll of a **listeriosis epidemic** that has affected several Italian regions in recent months. The cause? The consumption of **frankfurters made from raw poultry meat**. [LeBlogaa](#), 2 pages. (27.09.2022). Original Publication: [IlFatto](#).

★★★ ***Campylobacter* during poultry slaughter processes:** As part of a program to **reduce numbers of *Campylobacter*** on retail chickens, twenty-two broiler processing lines, representing over 90% of United Kingdom production, were characterized by enumerating *Campylobacter* at **different steps in the production process**. Significant **reductions** in *Campylobacter* numbers was observed at the carcass scalding step; however, the following defeathering stage caused a **significant increase** in contamination that effectively negated the reductions caused by scalding. **Cross contamination** between poultry flocks was substantial, whereas airborne transmission was unlikely to be a primary transfer mechanism. [LeBlogaa](#), 1 page. (26.09.2022). Original Publication: [JFodProt](#).

★★★ **Hepatitis A genotype IB of unknown origin:** Clusters and **outbreaks of hepatitis A virus (HAV) genotype IB** with four unique but closely related HAV sequences have been reported in **six European Union (EU) countries**

and in the United Kingdom (UK). More than 300 cases with identical or closely related HAV strains have been identified. [FSN](#), 2 pages. (01.10.2022). Original Publication: [ECDC](#).

★ ★ **STEC in frozen Falafel:** Frozen **Falafel** with possible presence of **Shiga toxin-producing *E. coli*** in the **USA**. There have been 20 reported cases in six states with onset dates reported between July 24, 2022 and September 19, 2022 with 5 hospitalization and no deaths. [FDA](#), 1 page. (07.10.2022).

★ **Cryptosporidiosis outbreak from drinking water:** In Italy, epidemiological investigations were able to associate a 2019 **outbreak of cryptosporidiosis** with drinking water. Molecular characterisation revealed the zoonotic species *Cryptosporidium parvum* as the causative agent. A **single subtype** (IIdA25G1) was found among all cases, and in one of two positive water samples. The municipality's water supply used spring water that only received a **disinfection treatment insufficient** to inactivate the parasite. [Eurosurveillance](#), 11 pages. (01.09.2022).

★ **The cost of living crisis could increase the risk of food poisoning:** An article discusses why increasing costs of living, particularly **rising energy costs**, could trigger an increase of the risk of food poisoning due to ***Listeria monocytogenes***. [Conversation](#), 2 pages. (13.09.2022).

★ ***Toxocara* spp. eggs on 'ready-to-eat' vegetables:** A study aimed to investigate the presence of *Toxocara* spp. eggs on **'ready-to-eat' vegetables** (lettuce, spinach, spring onion and celery) sampled from community gardens in southern England. The study showed for the first time the **presence of *Toxocara* spp. eggs on vegetables** grown in the UK, as well as within the soil where these vegetables originated, and highlights biosecurity and zoonotic risks in community gardens. [FoodWatParasitol](#), 7 pages. (06.2022).

★ **Anisakis in Japan:** Using data from 2018–2019 health insurance claims, it was estimated that the average **annual incidence** of anisakiasis in Japan to be **19,737 cases**. Molecular identification of larvae revealed that most (88.4%) patients were infected with the species ***Anisakis simplex* sensu stricto**. [EID Journal](#), 1 page. (10.2022).

★ **Foodborne botulism due to potato product:** During September 2019, public health authorities in Colorado were notified of **four patients** who had presented to nearby hospitals with clinical features consistent with **botulism**. All four patients had shared a meal that included **commercially prepared roasted potatoes** from an individual package without refrigeration instructions. [FoodbPathDis](#), 6 pages. (23.09.2022).

★ ***Clostridium perfringens* and dairy farm systems:** *C. perfringens* isolated from bovine, caprine, and ovine **dairy farm systems** were phenotypically screened for **antimicrobial sensitivity** profiling, and subjected to whole genome sequencing to elucidate related genetic markers, as well as examine virulence gene markers, mobile genetic elements, and other features. Both toxin type A and type D isolates were identified including **20 novel sequence types**. [IntJFoodMicr](#), 11 pages. (02.12.2022).

★ ***Clostridium botulinum* in chai concentrate:** A company is recalling certain bottles of **Chai Concentrate Mix** because of potential under-processing which may lead to ***Clostridium botulinum*** contamination. [FSN](#), 2 pages. (30.09.2022).

★ **Highly pathogenic avian influenza (HPAI) outbreak:** Between June and September 2022, 788 **HPAI virus detections** were reported in 16 EU/EEA countries and the UK with 56 in **poultry**, 22 and 710 in captive and wild birds, respectively. With cases detected up to September, the **epidemic is clearly still ongoing**. The risk of transmission to humans by exposure to contaminated poultry products is considered negligible. [EFSA](#), 2 pages. (03.10.2022).

Chemistry

★ ★ **Microplastic particles in human cirrhotic liver tissues:** Researchers at the University Medical Centre Hamburg-Eppendorf took liver, kidney and spleen samples. Microplastic concentrations in all six cirrhotic liver tissues tested positive. [Ananova](#), 2 pages. (07.08.2022). Original Publication: [eBiom](#)

★ ★ **Organophosphate esters in food products:** UK research sheds light on the presence of **organophosphate esters** (OPEs) in foods. The study seems to confirm that food ingestion is a **substantial pathway** of human exposure to OPEs in the UK. Concentrations were **highest in milk and milk products**, followed by cereal and cereal products, with concentrations lowest in chickens' eggs. [FoodNavigator](#), 2 pages. (15.09.2022). Original Publication: [SSRN](#).

★ ★ **Diarrhetic shellfish poisoning toxins and colorectal cancer:** Shellfish can accumulate diarrhetic shellfish poisoning (DSP) toxins, which can cause a gastrointestinal illness. DSP toxins are also tumor promoters that could

increase colorectal cancer risk. However, according to a new article, the current regulation about the level of DSP toxins in shellfish meat is only centred on reduction of the gastrointestinal symptoms. [Express](#), 1 page. (16.09.2022).

★ ★ **Mycotoxin in soy-based meat analogues:** The aim of a study was **to assess the risk** of replacing meat with plant-based analogues with respect to **mycotoxin** exposure, as a proof of concept to demonstrate the need for a proper regulatory framework for mycotoxins in meat imitates. [ExpoHealth](#), 15 pages. (22.09.2022).

★ **Nanoplastics can disrupt human liver and lung cells' processes:** Scientists report laboratory results indicating that nanoplastic particles could **enter liver and lung cells** and disrupt their regular processes, potentially causing **adverse health outcomes**. [EurekAlert](#), 1 page. (15.09.2022). Original Publication: [JEnvSciTech](#).

★ **Nanoplastics in the food chain:** Nanoplastics can be transferred from **contaminated soil to plants**. When those plants are fed to insects, who are themselves eaten by fish, a **potential health risk** is presented to humans, according to fresh research out of Finland. [FoodNavigator](#), 1 page. (13.09.2022). Original Publication: [Nanotoday](#).

★ **Agricultural by-products and residues to feed animals:** Reorganizing food production systems to direct more **agricultural byproducts and residues** to animal feed would free enough material in **feed** about one billion people without requiring additional production. Could **hazards** (e.g. mycotoxins, pesticide residues, microorganisms) be introduced in the food chain? [EurekAlert](#), 2 pages. (19.09.2022). Original Publication: [NatureFood](#).

★ **Pesticides in fruit leather:** Fruit leathers can contain **high concentrations** of pesticides. This is due to the spraying of **agricultural chemicals** on the fruit from which the fruit leather is made. Different types of fresh fruit vary considerably in the amounts of residue they contain. [FSN](#), 1 page. (22.09.2022). Original Publication: [EWG](#)

★ **CBD edibles:** A recent study has found pervasive, low levels of **lead, cadmium, arsenic, mercury, and phthalates** in U.S. **cannabidiol products**. The study also demonstrated substantial inaccuracies of **product label** claims for CBD potency. Only 42 % of products fell within ± 10 % of the CBD claimed on the manufacturer label. [Food-SafetyMag](#), 1 page. (26.09.2022). Original Publication: [SciTotEnviron](#).

★ **Mycotoxins in complementary foods consumed by infants:** A study assessed the profiles of mycotoxins and other contaminants present in **complementary foods** consumed by Nigerian **infants** and young children (IYC) within the first 18 months of life. Estimated hypothetical daily intake using deterministic approach suggest **chronic aflatoxin exposure** in IYC between month 6 and 18. [FoodContr](#), 10 pages. (02.2023).

★ **Pesticide adjuvants: Adjuvants** are products designed to improve the performance or physical properties of a pesticide spray mixture. California has identified α -(p-nonylphenyl)- ω -hydroxypoly(oxyethylene) (**APNOHO**) as the most widely used pesticide in the state, applied to more than 10 million acres annually. Exposure to APNOHO is associated with **endocrine disruption, birth defects, and aquatic toxicity**. [ehp](#), 7 pages. (03.08.2022). Original Publication: [ehp](#), [Infosperber](#).

Nutrition

★ ★ **Plant-based beverages:** Plant-based beverages (PBB) are often marketed and used by consumers as alternatives to ruminant milks, particularly bovine milk. However, much research has established that there is **variation in nutritional composition** among these products, as well as demonstrating that they are largely **not nutritional replacements for milk**. [FarmersWeekly](#), 2 pages. (12.09.2022). Original Publication: [FrontNutr](#).

★ ★ **Dairy and meat products and diabetes:** A new meta-analysis links low fat dairy products with a reduced risk of developing type 2 diabetes (T2D). Additionally, the study correlated **red and processed meats** with a **greater T2D risk**. [MedNewsToday](#), 3 pages. (20.09.2022).

★ **Artificial sweeteners and heart disease:** A large study of French adults published recently suggests a potential **direct association** between higher artificial sweetener consumption and **increased cardiovascular disease risk**, including heart attack and stroke. [EurekAlert](#), 2 pages. (07.09.2022). Original Publication: [BMJ](#).

★ **Ultra-processed foods and their link to health:** In countries such as the UK, US and Canada, **ultra-processed foods** now account for 50% or more of calories consumed. This is concerning, given that these foods have been linked to a number of different health conditions, including a greater risk of **obesity** and various chronic diseases such as **cardiovascular disease** and **dementia**. [Conversation](#), 2 pages. (12.09.2022).

★ **Plant-based meat alternatives:** Results of a study performed suggested that plant-based meat analogues

weaken gastrointestinal digestive function of mice, and their digestion and absorption performance in vivo is **not as good as the real meat**. [JAgrFoodChem](#), 1 page. (07.09.2022).

★ **High fat diets and inflammation:** Scientists have shown that **high-fat diets** can cause rapid **changes in the bone marrow** of mice, driving the production of **inflammatory immune cells**, according to findings recently published. [EurekAlert](#), 2 pages. (20.09.2022). Original Publication: [eLife](#).

★ **Dietary fiber and liver cancer:** Consumption of **highly refined fiber** may increase the risk of **liver cancer**, according to new research. [EurekAlert](#), 2 pages. (26.09.2022). Original Publication: [Gastroenterology](#).

★ **Purple tomato:** A company developing the new purple fruit has passed a first test with U.S. regulators, demonstrating that **genetic changes** to the **tomatoes** do not expose the plants to a greater risk for pest damage. Genes taken from the purple **snapdragon plant** provide the color and boost levels of anthocyanins. [WebMD](#), 2 pages. (23.09.2022).

★ **Refined grains and heart disease:** In one of the first studies to examine the relationship between **different types of grain intake** and premature **coronary artery disease** in the Middle East, researchers found a higher intake of refined grain was associated with an increased risk of premature coronary artery disease in an Iranian population, while eating whole grains was associated with reduced risk. [EurekAlert](#), 1 page. (03.10.2022).

Allergy

★★ **Dairy-free flatbread - fatal allergic reaction:** A supplier has told an **inquest** it relied on verbal assurances that one of its ingredients was **dairy-free**. The inquest is investigating a **fatal allergic reaction** of a woman in December 2017 after eating a supposedly **dairy-free flatbread**. [TheGrocer](#), 1 page. (15.09.2022).

★ **Food allergen recalls:** Allergen food recalls issued by food regulatory bodies in the UK from 2016 to 2021 were analysed by food type, allergenic food group, reasons for recall, and food expiry status. **Milk** was the most recalled, and **unintended presence of allergens** is still detected in food declared 'free-from'. [FoodContr](#), 11 pages. (02.2023).

Fraud / Deception

★★ **Drug residues in meat labeled antibiotic-free:** A consumer class action, joined by a non-profit organization, sued a food retailer for **misleading advertising**: the prosecution claims **antibiotics** have been detected in beef sold as **"organic" and "antibiotic-free"**. [Affidia](#), 1 page. (29.08.2022). Original Publication: [FarmForward](#). Additional Information: [Science](#)

★★ **Identification of porcini:** In a new study, **visual inspection** was combined with **DNA barcoding** and **phylogenetic analyses** to assess the quality and accurately identify dehydrated porcini (*Boletus edulis*) commercial products destined for human consumption. Several commercial products labelled as *B. edulis* **did not contain** this species, but the less valuable ones *B. reticulatus*, *B. bainiugan* or *B. meiweiniuganjun*. [FoodContr](#), 7 pages. (02.2023).

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Seismo Info 09/2022



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The FSVO compiles the most important food safety information every month:

[FSVO website](#)

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

Dear reader, we are improving our processes. As you will see, the information is now presented according to defined areas: microbiology, chemistry, nutrition, fraud/deception and allergens. At the same time, we recall that the newsletter focuses on new hazards that are likely to be central to early detection. Enjoy your reading!

Microbiology

★★★★ **Hepatitis E in seaweed salad:** A notification has been submitted to the European Rapid alert system for food and feed (RASFF) for **Hepatitis E in wakame salad** (seaweed salad). [FoodWorld](#), 1 page. (12.08.2022). Original Publication: [RASFF](#).

★★★★ **Emergence and spread of NDM-1-producing *Vibrio* spp.:** Carbapenemase-producing *Vibrio* spp. have become **increasingly prevalent** and pose a severe **threat** to public health. The emergence of novel plasmids has contributed to the variable genetic contexts facilitating the spread of such genes between *Vibrio* spp. and other zoonotic pathogens, leading to a **rapid dissemination of antibiotic resistances** in bacterial pathogens worldwide. [JAnti-micrChem](#), 1 page. (18.08.2022).

★★★★ **Enteroaggregative *E. coli* (EAEC) O104:H4:** A type of *E. coli* similar to what caused a **large outbreak** in 2011 (mainly in Germany) has recently been detected in Europe. Two cases of **Shiga toxin-producing Enteroaggregative *E. coli* (EAEC) O104:H4** were reported in the Netherlands in 2019 and 2020 and in one food isolate in 2017. There was also a patient from Austria in 2021. [FSN](#), 1 page. (18.08.2022). Original Publication: [EmergInfDis](#).

★★★★ ***Campylobacter* spp. in shellfish:** A new study aimed to assess the presence of **thermotolerant *Cam-***

pylobacter spp. in mussels, oysters and queen scallops. The samples were collected from nine locations in the Istrian aquatory, Croatia. Among 108 examined samples, **mussels** dominated and were the **only ones found positive** for the presence of *Campylobacter* (25.6%). [Pathogens](#), 9 pages. (19.08.2022).

★★★ ***Clostridium botulinum* in fresh-cut produce:** An article discusses the **increasing consideration** of *Clostridium botulinum* as an **emerging pathogen** in **fresh-cut vegetables, fruits, and mushrooms**. [FoodSafetyMag](#), 4 pages. (15.08.2022).

★★★ ***Arcobacter* spp. in foodstuffs:** Spanish scientists have established the presence of **various species of the *Arcobacter* genus** in a wide range of foodstuffs. A total of 220 samples were analysed (seafood, vegetables, meat products and fresh cheese). *Arcobacter* were **detected in > 22% of the samples** and the most abundant species in all of them was ***A. butzleri***. [Affidia](#), 1 page. (08.08.2022). Original Publication: [IntJFoodMicr](#).

★★ **Nutritional drink:** An American company, which **recalled 53 products** (nutritional and beverage products) last month, has added more than 30 more drinks to the call back due to potential for **botulism contamination** as well as a ***Cronobacter sakazakii*** threat. [USAToday](#), 2 pages. (11.08.2022). Original Publication: [PRNNewswire](#), [FDA](#).

★★ **Antimicrobial resistance of *Salmonella* Serovar Kentucky:** *Salmonella* Serovar Kentucky was identified in the US as having its origin mainly **outside the USA**. The recent introduction of **sequence type (ST) 198 strains** in the human population in the United States likely results from consumption of **foods that are imported** or consumed while traveling. [FoodSafetyMag](#), 1 page. (15.08.2022). Original Publication: [FoodbPathDis](#).

★★ ***Escherichia coli* from patients and swine:** A new study shows that isolates from swine and humans had the **stx2 gene**, which could cause severe disease. **Antimicrobial resistance** was significantly higher in pigs than in patients. These results suggest that **pig could act as a reservoir** in human infection and antimicrobial resistance could be transferred to human from pigs. [BMCMicrobiol](#), 10 pages. (16.08.2022).

★★ **Dill recalled because of *Listeria* contamination:** A Canadian company is recalling **quick freezing dill** because of *Listeria monocytogenes* contamination. [FSN](#), 1 page. (17.08.2022). Original Publication: [GovCanada](#).

★★ **Hepatitis E in water environments:** A systematic **review of published data** aimed to assess the **prevalence of Hepatitis E virus (HEV)** in water matrices (untreated and treated wastewater, surface water, drinking water, groundwater, and other water environments). In **drinking water**, the study established an overall **prevalence of HEV of 4.7%**. The overall prevalence obtained of this study was generally higher in industrialized countries. [FoodEnvironmentVirol](#), 13 pages. (29.08.2022).

★ ***Campylobacter* prevalence in broiler and human campylobacteriosis cases:** A recent study explores the relationship between the **incidence of campylobacteriosis** and the **prevalence of *Campylobacter* spp.** in poultry broilers batches in Sweden between 2009-2019. The study suggests that there is a **two-week time lag** between human cases and broiler prevalence. [FoodSafetyMag](#), 1 page. (08.08.2022). Original Publication: [IntJFoodMicr](#).

★ ***Salmonella* outbreak linked to watermelon:** Norway is reporting a **national outbreak** caused by **monophasic *Salmonella* Typhimurium**. So far, infection has been detected in 18 people. Source of infection is consumption of **watermelon**. [OutbreakNewsToday](#), 1 page. (13.08.2022).

★ **Microbiological contamination of hamburger buns:** An American company is voluntarily recalling **hamburger buns** and related products due to a potential microbial contamination with ***Cronobacter sakazakii*** and ***Clostridium botulinum***. [FDA](#), 2 pages. (13.08.2022).

★ ***Brucella* in dairy products:** High *Brucella* contamination rates have been found in **ricotta, cheese, and raw milk** samples in Tunisia, posing a **serious risk** to consumers. [FSN](#), 1 page. (21.08.2022). Original Publication: [Foods](#)

★ ***Escherichia coli* O157:H7 in hamburgers' lettuce:** The American Centers for disease control and prevention (CDC) reported that **37 people** in four states have been **sickened by *E. coli* O157:H7** – likely after consuming hamburgers with lettuce at a fastfood restaurant. The **lettuce seems to be of relevance**, not the burger. [FoodPoisonJournal](#), 2 pages. (21.08.2022). Original Publication: [CDC](#).

★ **Protective cultures on tomatoes:** A study was carried out to identify **protective microbial strains** in tomato cultures. The effectiveness of eight strains belonging to ***Pseudomonas*, *Bacillus* and *Enterobacter*** genera was confirmed in in vivo assays, carried out on tomato fruit artificially inoculated with *A. alternata* and *B. cinerea*. [IntJFoodMicr](#), 12 pages. (16.10.2022).

★ **Bacterial pathogens in insect-based food:** A variety of 73 food products with **insect or other arthropod ingredients** on the occurrence of potential **bacterial pathogens** were analysed. Most of the investigated food products complied with food safety standards. *Salmonella* spp., *Bacillus cereus* (s.lato), *Bacillus cytotoxicus*, *Clostridium perfringens* were detected. No detection of STEC or *Clostridioides difficile*. [IntJFoodMicr](#), 11 pages. (16.10.2022).

★ **Multi-drug resistant *Salmonella* Infantis in chicken:** The U.S. Department of Agriculture's Food Safety and Inspection Service (USDA's FSIS) has published an after-action review of a **foodborne illness outbreak** that was linked to **chicken products** involving a **multi-drug resistant (MDR) *Salmonella* Infantis** strain. [FoodSafetyMag](#), 2 pages. (29.08.2022). Original Publication: [FDA](#).

★ **Wastewater in agriculture and parasites:** The German federal institute for risk assessment (BfR) has published a **risk assessment** of transmission of *Cryptosporidium* spp., *Giardia duodenalis* and *Toxoplasma gondii* to humans related to using **reclaimed wastewater** in agriculture. [BfR](#), 41 pages. (27.07.2022).

Chemistry

★★★ **Migration of styrene:** 17 dairy **products packed in polystyrene** from the Italian and German markets were investigated. **Styrene concentrations** ranged from **5 to 30 µg/kg** at the best before date of yogurt and cream products. In single serving portions of coffee creamer, stored at room temperature until the best before date, 401 µg/kg were measured. [Foods](#), 17 pages. (17.07.2022).

★★★ **Microplastics in bottled water:** A test by a French association has highlighted the presence of microplastics in **bottled water**. [ActuEnvy](#), 3 pages. (28.07.2022). Original Publication: [AgirPourEnvy](#), [Labocea](#).

★★★ **Red meat and cardiovascular disease:** Researchers found that eating red meat leads to the **production of metabolites** in the body's microbiome that are associated with a **higher risk of atherosclerotic cardiovascular disease** in people over 65. The metabolites were **trimethylamine N-oxide (TMAO)** and its key intermediates, gamma-butyrobetaine, and crotonobetaine. TMAO is derived from L-carnitine, which is a popular fitness supplement, as is iron heme. The authors recommend caution in consuming such supplements until their health effects are better understood. [MedNewsToday](#), 3 pages. (08.08.2022). Original Publication: [ATVB](#).

★★ **Food packaging as organophosphate ester source:** A study assessed organophosphate ester (OPE) contamination of **Chinese foodstuff** and evaluated whether the chemicals originated from the packaging. [FoodPackForum](#), 1 page. (16.08.2022). Original Publication: [JAgrFoodChem](#).

★★ **Upcycling of banana peel flour:** A recent study found that **banana peels** that are blanched, dried and ground into a fine flour can be **used for baked goods**. [news24](#), 2 pages. (18.08.2022). Original Publication: [ACSFoodSciTech](#). Additional Information: [Why do bananas require so many pesticides?](#).

★★ **Food safety of smoothies:** An article discusses **smoothies** from a **nutritional and toxicological** point of view. It addresses what should be observed when selecting the ingredients and preparing them in order to **avoid health risks**. [Ernährungsumschau](#), 10 pages. (08.2022).

★★ **Unauthorized veterinary drug residues in seafood:** A global comparison of reported food fraud across 80 countries and **72 seafood species** is the subject of a new article. More than half of the issues reported involved the presence of **illegal or unauthorized veterinary drug residues** in seafood originating from Asia. [SeafoodSource](#), 2 pages. (09.08.2022). Original Publication: [CompRevFoodSciFS](#).

★★ **PFOS and liver cancer:** Exposure to **PFOS** (Perfluorooctanesulfonic acid) is linked to **non-viral hepatocellular carcinoma**, the most common type of liver cancer, according to a new study. [JHEPReports](#), 26 pages. (08.08.2022).

★★ **Fertilizers from used batteries:** A company in Finland makes **organic certified fertilizers** from **used batteries**, hopes circular economy solutions can prove a vital tool. [FoodNavigator](#), 2 pages. (31.08.2022). Additional Information: [Tracegrow - Company homepage](#).

★ **Lead in game meat:** A new study concludes that eating **pheasant killed using lead shot** is likely to expose consumers to **raised levels of lead** in their diet, even if the meat is carefully prepared to remove the shotgun pellets and the most damaged tissue. [EurekAlert](#), 2 pages. (22.08.2022). Original Publication: [PLOSOne](#) Additional Information: [NewFoodMagazine](#).

Nutrition

★★★ **Vegetarian women have greater risk of hip fracture:** A study from the University of Leeds found that **women** who followed a **vegetarian diet** were at a **33% higher risk of hip fracture** compared with those who regularly ate meat. [Conversation](#), 2 pages. (11.08.2022). Original Publication: [BMC Med.](#)

★★★ **Ultraprocessed foods:** More research suggests that eating a **diet high in ultraprocessed foods (UPF)** is **harmful for the aging brain**. Results from a Brazilian study showed that higher intake of UPF was significantly associated with a faster **rate of decline** in both executive and global cognitive function. [Medscape](#), 3 pages. (01.08.2022).

★★ **Ultraprocessed food and body mass index:** A study in the USA shows **ultraprocessed food (UPF) intake** is associated with **BMI**. Among US adults, abdominal and visceral adiposity indicators were positively associated with UPFs and inversely associated with minimally processed food. [Obesity](#), 11 pages. (04.08.2022).

★★ **Ultraprocessed food and mental health:** Results of a new study showed that individuals who **consumed the most ultra-processed foods** as compared with those who consumed the least amount had statistically significant **increases** in the adverse mental health symptoms of **mild depression**, “mentally unhealthy days” and “anxious days.” [EurekAlert](#), 2 pages. (25.08.2022). Original Publication: [PubHealthRes.](#)

★★ **Vitamin D and inflammation:** New research shows a direct link between **low levels of vitamin D** and **high levels of inflammation**, providing an important biomarker to identify people at higher risk of or severity of **chronic illnesses** with an inflammatory component. [EurekAlert](#), 1 page. (07.08.2022). Original Publication: [IntJEpid.](#)

★ **Vegan milk:** Most plant-based “milks” have **lower amounts of four key micronutrients** – phosphorus, magnesium, zinc and selenium – than cow’s milk. The exception is milk substitutes made from pea protein, which has broadly similar levels to cow’s milk. [NewScientist](#), 1 page. (24.08.2022).

★ **Sugar, microbiome, obesity and diabetes:** A study of mice found that **dietary sugar** alters the gut **microbiome**, setting off a chain of events that leads to **metabolic disease, pre-diabetes, and weight gain**. [EurekAlert](#), 2 pages. (29.08.2022). Original Publication: [Cell.](#)

★ **Ultraprocessed foods and colorectal cancer:** A new study links **ultra-processed foods** and **colorectal cancer** in men. Indeed, researchers found that men who consumed high rates of ultra-processed foods were at higher risk for developing colorectal cancer than those who did not. [EurekAlert](#), 2 pages. (31.08.2022). Original Publication: [BMJ.](#)

Fraud / Deception

★★★ **Illegal trade of pesticides:** Pesticides are the newest counterfeit product spreading through the EU. In their latest annual operation, dubbed Silver Axe VII, that targeted the **illegal trade**, European law enforcement seized more than **one thousand tons of illegal pesticides** and arrested ten people. The operation also found evidence that while some of the counterfeit goods are being smuggled into the EU from neighboring regions, other pesticides were being made locally on EU soil. [OCCP](#), 1 page. (27.07.2022). Original Publication: [Europol.](#)

★★ **Identification of species used in fish burgers:** An Italian study highlighted the presence of 16 marine and 2 mammalian taxa in fish burgers with an overall **mislabelling rate of 80%**, including cases of **species substitution**, the undeclared presence of **molluscs** and of taxa whose use are not permitted in Italy. [IJFS](#), 5 pages. (11.08.2022).

★ **Fake vanilla:** In 2021 and 2020, the German authority LAVES tested a total of 64 samples of **vanilla ice cream** for the use of real vanilla. These were 21 samples from unpacked ice creams (gelateria) and 43 samples in pre-packages. A total of 26 samples were **not compliant**, of which 16 were unpacked samples and 10 in pre-packages. [LAVES](#), 2 pages. (16.08.2022).

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Seismo Info 08/2022



Source: mvcaspeel, Fotolia

The FSVO compiles the most important food safety information every month:

[FSVO website](#)

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

Food trends

★★★★ **Honey:** An Israeli company is producing **honey without bees**. The product is manufactured with **bioreactors** and, according to the company representatives, is almost identical to traditional honey. [DerStandard](#), 3 pages. (04.07.2022).

★★★ **Alternative proteins:** A study shows that **every tenth portion** of meat, eggs, dairy, and seafood eaten around the globe will be made from **alternative proteins** by 2035. [BlueHorizon](#) (07.2022). Full report: [BCG](#).

★★★ **Titanium dioxide substitute:** A Titanium dioxide substitute, inspired by 'brilliantly white' **beetle** (Cyphochilus), has been developed. The pigment is **100% cellulose** and is meant to replace titanium dioxide in food applications [FoodNavigator](#), 3 pages. (22.7.2022).

★★★ **E-commerce:** An articles addresses the **food safety concerns** associated with the **rise of e-commerce**, **ghost kitchens**, and **delivery** in food retail. [FoodSafetyMagazine](#), 4 pages. (22.06.2022).

★★★ **Tara flour:** Food safety experts warn that **tara flour isn't safe** and should be avoided. Tara flour comes from the seeds of tara trees which are native to Peru. [FoodSafetyNews](#), 2 pages. (23.07.2022). Original publication: [ConsRep](#). After numerous reports of **gastrointestinal issues** and more than a month of investigation, an American meal-kit delivery company has identified the culprit that led to a **recall** of its French Lentil + Leek Crumbles last month: tara flour. [Affidia](#), 1 page. (20.07.2022). More information: [FDA](#).

★ **Food Waste:** Retailers **remove indicative dates** from fruit, veg and dairy. In an effort to limit the amount of food wasted in households across the UK, supermarket retailers are taking action. [FoodNavigator](#), 2 pages. (19.07.2022). More information: [FoodAktuell](#).

Unusual outbreaks

★★★ **Shiga toxin-producing *E. coli***: A rise in **Shiga toxin-producing *E. coli*** (STEC) infections has prompted a **warning by health officials** in the Czech Republic. [FoodSafetyNews](#), 3 pages. (05.07.2022). In Switzerland, since beginning of the year 2022, a rise could also be observed compared to the same period the years before (2022: 524, 2021: 327 2020: 277 cases). [FOPH](#), 1 page. (19.07.2022).

★★★ ***Listeria monocytogenes*: Frozen foods** have rarely been linked to *Listeria monocytogenes* illness. A publication describes an **outbreak** investigation prompted both by hospital clustering of illnesses and product testing. [Clin.Infect.Dis](#), 22 pages. (07.07.2022).

Food safety

★★★ **Mineral water**: The campaign of the Swiss Food safety and veterinary office (FSVO), in cooperation with the Cantonal laboratory of Bern, has shown that various mineral waters with **excessive boron content** are in circulation. [FSVO](#), 2 pages. (09.05.2022).

★★★ **Nitrates**: The French organization Anses confirms the existence of an **association** between the risk of **colorectal cancer** and exposure to **nitrites and/or nitrates**, whether ingested through the consumption of processed meat, or via drinking water. [ANSES](#), 3 pages. (12.07.2022). More information: [ANSES](#). The British meat industry says it is actively engaged in **working to reduce nitrites** in cured pork products. [FoodNavigator](#), 2pages. (12.07.2022).

★★★ **Microplastics: Viruses** that cause vomiting and diarrhea can stick to **microplastics** and **stay infectious** for up to three days in freshwater, according to a study published recently. [BusinessInsider](#), 3 pages. (30.06.2022). Original publication: [EnvironPollut](#). Dutch Researchers have found **microplastics in beef and pork samples**, and in the feed, blood and milk of Dutch cows and pigs. [VrijeUniAmsterdam](#), 48 pages. (29.04.2022).

★★★ ***Salmonella* Infantis**: Test results in the U.K. reveal a **rise in poultry products** contaminated with *Salmonella* Infantis, with **raw and processed meat** found to be affected. Beef, pork and animal feed have also tested positive for the bacteria. [TheGuardian](#), 4 pages. (05.07.2022).

★★★ **Antimony**: An American organization announced the publication of its new report that finds **unsafe levels of antimony** in common **beverages** packaged in **polyethylene terephthalate (PET) bottles**. [DefendOurHealth](#), 2 pages. (19.07.2022). More information: [Full Report](#).

★★★ **Heavy metals: Blueberries**, freeze-dried, were recalled over **high levels of lead**. It was found that the products' country of origin is Lithuania. [FoodSafetyNews](#), 2 pages. (18.07.2022). The American Food and drug administration (FDA) found **significant levels of toxic heavy metals** in the U.S. food supply during its ongoing monitoring efforts. **Baby foods** were among the most contaminated for **arsenic and lead**. [UPI](#), 2 pages. (18.07.2022). Original publication: [FDA](#).

★★★ **Frozen products**: A study highlights the **importance of cooking** non-ready-to-eat frozen vegetables, fruits and herbs prior to eating. [KSWFoodMicro](#), 2 pages. (10.05.2022). Original publication: [FSIS](#).

★★★ ***Laribacter hongkongensis***: A study analysed the **prevalence of *Laribacter hongkongensis*** in humans, aquatic products, food/non-food animals, and environmental waters to provide update information on the pathogen. The study concluded that amphibians and aquatic products are potential **vehicles for the transmission** of the pathogen, leading to a recommendation that *L. hongkongensis* should be listed among pathogens routinely assayed for analytical microbiological safety criteria in **seafood/aquatic products**. [FoodMicrobiology](#), 6 pages. (10.2022).

★★ **Marine toxins**: Ciguatera toxin, which **does not break down during cooking**, can cause severe foodborne illness in humans who consume **contaminated reef fish** that feed on toxic microalgae. **Climate change** is altering algal and seaweed growth patterns, which may impact the rate of ciguatoxin accumulation by these fish species. [FoodSafety](#), 3 pages. (11.07.2022).

★★ **Turmeric**: A German organization tested **21 ground turmeric products**, eleven of them in organic quality. Only one product achieved a "very good"; **18 failed** - mainly because of a contamination with **mineral oil components** that was rated "too high". So far, there are only guidance values, but no limit values for MOSH. [Behr's](#), 1 page. (18.07.2022). Original publication: [Ökotest](#).

★★ **Ultraprocessed foods:** A new study shows that a **high consumption** of ultra-processed foods during **pregnancy** is detrimental to the growth and development of the **fetus**. The authors consider it has an effect comparable to smoking more than ten cigarettes a day, and is even greater than maternal alcohol consumption. [ClinNutr](#), 9 pages. (08.2022).

★★ **PET:** Polyethylene terephthalate (PET) oligomers are **ubiquitous in PET** used in food contact applications. However, no specific **risk assessment** framework or guidance for the safety evaluating of PET oligomers exist to date. A publication now gives some hints how to tackle these challenges. [EnvInt](#), 17 pages. (29.06.2022).

★★ **SARS-CoV-2:** SARS-CoV-2 surrogates can **survive on meat products** in the **refrigerator** or the **freezer**, for up to 30 days. The research, carried out by an American research team, was conducted using chicken, beef, pork and salmon. [EurekAlert](#), 1 page. (11.07.2022). Original publication: [ApplEnvMicr](#).

★★ **Fresh produce:** A study assessed the occurrence of *Giardia duodenalis* and *Cryptosporidium* spp. (oo)cysts in **green leafy vegetables** marketed in the city of Valencia, in Spain. *Giardia duodenalis* was detected in 23% of the samples, and *Cryptosporidium* spp. in 7.8%. *G. duodenalis* and *Cryptosporidium* spp. were more frequent in ecological crops. [IntJFoodMicr](#), 7 pages. (22.07.2022).

★★ **Nuts:** A study has demonstrated the **efficacy of ozone treatment** in reducing **fungi and aflatoxin contamination** of **nuts**, as well as explored how ozonation affects the **nutritional quality** of nuts. [FoodSafetyMagazine](#), 2 pages. (04.07.2022). Original publication: [BrazJBiol](#).

★★ **Bacillus subtilis:** A case of bacteremia caused by *Bacillus subtilis* variant **natto** has been reported after a gastrointestinal perforation in a patient in Japan. This case and 3 others in Japan may have been caused by **consuming natto (fermented soybeans)**. [EmInfDis](#), 1 page. (08.2022).

★ **Food safety myths:** An article explores the consequences of **food safety myths** on **reported gastroenteritis** incidence and prevalence in UK, Norway and Germany. [FoodControl](#), 30 pages. (27.06.2022).

★ **Snails:** In tropical countries, **land snails** are an important food source; however, **foodborne disease risks** are poorly quantified. Scientists detected *Campylobacter* spp., *Yersinia* spp., *Listeria* spp., *Salmonella* spp., or Shiga-toxicogenic *Escherichia coli* in 57%–86% of snails in Cameroon. [EmInfDis](#), 1 page. (08.2022).

★ **Antimicrobial resistance:** The UK Food Standards Agency (FSA) has found the prevalence of *Escherichia coli* with **antimicrobial resistance** (AMR) to be **low** in retail **beef and pork**. The findings are the result of surveillance of AMR in *E. coli* on retail meats, which has been conducted annually since 2015. [FoodSafetyMagazine](#), 2 pages. (30.06.2022). Original publication: [FSA](#). A new study has found that a **highly antibiotic-resistant** strain of the superbug **MRSA** -- methicillin resistant *Staphylococcus aureus* -- has **emerged in livestock** in the last 50 years, probably due to widespread antibiotic use in pig farming. [ScienceDaily](#), 2 pages. (28.06.2022).

★ **Zoonoses:** The Swiss **Zoonosis report 2021** has been published. The number of cases has **increased** again in 2021; **campylobacteriosis** and **salmonellosis** were the most frequently reported diseases. [FSVO](#), 53 pages. (05.07.2022).

★ **PFAS:** The U.S. Food and Drug Administration (FDA) tested **seafood samples** for per- and polyfluoroalkyl substances (PFAS) and found **harmful levels** of perfluorooctanoic acid in **canned clams** from China. [FoodSafety](#), 2 pages. (07.07.2022). Original publication: [FDA](#).

★ **Food safety priorities:** The Food and agriculture organization of the United Nations (FAO) published the **Strategic priorities** for food safety within the FAO Strategic Framework 2022-31. [FAO](#), 16 pages. (07.2022). Consumer trends, **ethylene oxide** and risks posed by **illegally imported meat** were among many issues discussed by a Dutch network focused on emerging food safety risks. [FoodSafetyNews](#), 2 pages. (20.07.2022). Original publication: [RIVM](#).

Food fraud

★★ **Food prices:** **Higher food prices** expected beyond 2023. Low supply and high demand for agricultural products has resulted in **skyrocketing prices** for inputs like **grains** and **fertilisers**. This could well continue 'beyond 2023', analysts warn. Opportunities for food fraud may rise. [FoodNavigator](#), 2 pages. (06.06.2022). Between January 2019 and June 2021, **the cost of groceries rose** in tandem with COVID-19 case counts across the globe. [EurekAlert](#), 2 pages. (13.06.2022). Original publication: [NatureFood](#).

★ **Seafood:** A study examined reported **seafood fraud incidents** between 2010 and 2020. The study provides an overview of **historic levels of seafood** fraud that can be used to inform seafood fraud prevention and mitigation activities by the food industry, regulators and other stakeholders. [ComprRevFoodScFoodSaf](#). 24 pages. (08.07.2022).

Close up

★★ **Cyclospora:** In Canada, 84 cases of **cyclospora infection** that are **not travel-associated** have already been identified by 30.06.2022. The authorities suspect infection through **contaminated, imported food**, e.g. basil, coriander, berries, salads. [FoodSafetyNews](#), 2 pages. (11.07.2022).

★★ **Irrigation: Climatic change** is increasing the pressure on water resources. The use of reclaimed wastewater for agricultural irrigation has legally been made possible at the European level. The German Federal Institute for Risk Assessment (BfR) has evaluated scientific literature on the **health risk** of using **reclaimed wastewater** for the **irrigation of plants** used as food with regard to viral pathogens. [BfR](#), 24 pages. (08.07.2022).

★★ **Cancer:** A new American nationwide study adds to mounting evidence that a **standard Western diet** pattern may contribute to **colorectal cancer** (CRC) onset. They believe that unhealthy foods may stimulate the cancer-inducing activity of **colibactin**, a substance deriving from *E. coli*, in the gut. [MedicalNewsToday](#), 3 pages. (04.07.2022). Original publication: [Gastroenterology](#).

★★ **Vitamins:** In the most thorough meta-analysis to date, researchers crunched the numbers from virtually every randomized trial of **vitamin supplements** in adults to conclude that, basically, **they do nothing**. [Medscape](#), 3 pages. (22.06.2022). Original publication: [JAMA](#). **Overdosing on vitamin D** supplements is both possible and **harmful**, warn doctors after they treated a man who needed hospital admission for his excessive vitamin D intake. [EurekAlert](#), 2 pages. (05.07.2022). Original publication: [BMJ](#).

★★ **Parasites:** Parasites that cause diarrhoea are likely to **become more virulent** because of the speed at which they are **exchanging their DNA** and evolving. New research showed that *Cryptosporidium parvum* lineages have exchanged more DNA in the last 200 years than in all the time before. The authors put this down to **globalisation** and our increasingly **close contact with animals**. [EurekAlert](#), 3 pages. (30.06.2022). Original publication: [MolEcology](#).

★★ **Endocrine disruptors:** The **growing incidence** of a potentially cancer-causing **liver disease** in **children** is associated with prenatal exposure to several **endocrine-disrupting chemicals**, according to a new report. [EurekAlert](#), 2 pages. (06.07.2022). Original publication: [JAMA](#).

★★ **Microplastics:** A research team from the German Federal Institute for Risk Assessment (BfR) examines possible health effects of **plastic particles**. The smaller plastic particles are, the more easily they can be taken up by cells. In addition, the shape, surface and chemical properties play an important role in answering the question of how the particles could affect human tissue. [BfR](#), 2 pages. (11.07.2022). Original publication: [MicroAndNanoplastics](#).

★ **Alert and cooperation network:** The **2021 annual report** of the Alert and cooperation network has been published. This report covers all the information shared in 2021 between members of the Rapid alert system for food and feed network (RASFF), the Administrative assistance and cooperation network (AAC) or the Agri-food fraud network (FFN). [EuropeanCommission](#), 28 pages. (2022).

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The FSVO compiles the most important food safety information every month:

[FSVO website](#)

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

Food trends

★★★★ **Ultraprocessed food:** A **wrong vegetarian diet**, based mostly on highly processed foods, can lead to **problems** and increase the **risk of death** even more than the daily consumption of red meat. [Blick](#), video. (24.05.2022), Original publication: [AmJCNut](#). Leading scientists present **arguments for and against** incorporating the concept of **ultra-processed** foods into **dietary guidelines**. [EurekAlert](#), 3 pages. (07.06.2022). Original publications: [AJCN](#), [AJCN](#). For the first time in the last 30 years, the **consumption** of ultra-processed foods among teenagers in the United States **declined** during the COVID-19 pandemic. [EurekAlert](#), 1 page. (11.06.2022). According to a new study, children aged 3 to 5 who **consumed more ultraprocessed foods** had **poorer locomotor skills** than children who consumed less of these foods. It also showed lower cardiovascular fitness in 12- to 15-year-olds who consumed more ultraprocessed foods. [ScienceDaily](#), 2 pages. (14.06.2022).

★★★★ **Plant-based diets:** People who are pursuing a **plant-only diet** are exposing themselves to more **mycotoxins** than those on omnivorous diets. [NewFood](#), 1 page. (25.05.2022). Researchers report that **proteins** in a model plant-based substitute were **not as accessible to cells** as those from meat. [EurekAlert](#), 2 pages. (22.06.2022). Original publication: [JAgricFoodChem](#).

★★★★ **Packaging:** Scientists have developed a **biodegradable, antimicrobial** food packaging to replace plastic. The solution is **plant-based** and is applied on foods as a **spray**, and **protects food** products from pathogens, spoilage, and physical damage. [FoodSafetyMagazine](#), 1 page. (21.06.2022). Original publication: [NatureFood](#). An article reviews the various types of **edible coatings** from **macromolecules** that have been developed to preserve fresh and fresh-cut apples. The article also describes the potential of **incorporating probiotics** and **prebiotics** in such edible coatings. [FoodControl](#), 16 pages. (11.2022). A **fibre-based barrier** is being developed to **replace the aluminium**

layer currently used in food and beverage packaging like juice boxes and milk cartons. [FoodNavigator](#), 2 pages. (09.06.2022). A major beer producer is putting a **new fiber bottle** into a large-scale trial, with 8,000 bio-based and fully recyclable beer bottles being sampled across Western Europe. [FoodNavigator](#), 2 pages. (22.06.2022).

★★ **Social media:** Scientists warn of **misleading nutrition advice** on TikTok. A study finds a high proportion of posts on Mediterranean diet are confusing and inaccurate. [FoodNavigator](#), 2 pages. (14.06.2022).

★★ **Upcycling:** Dutch researchers have become the first to extract **high-value Rubisco protein** from **tomato leaves**. Rubisco is a very **useful protein** for processing into **meat substitutes** and plant-based dairy alternatives. [WageningenUni&Res](#), 2 pages. (25.05.2022). A study summarizes various approaches used for **pineapple waste processing** along with several important **value-added products** gained which could contribute towards healthy food and a sustainable environment. [IntJFoodMicr](#), 14 pages. (16.07.2022).

★ **Unpacked shops:** In recent years, more and more grocery shops have sprung up where **products are sold loose**, so-called "unpacked shops". With this form of shopping, there are a few things for consumers to consider: the **safety of the packaging itself**, the **labelling** of the products and **hygiene**. [BVL](#), 2 pages. (01.06.2022).

Unusual outbreaks

★★★ **Clenbuterol:** **Hundreds of people** in a Mexican municipality have fallen **ill** with the suspicion falling on **meat contaminated with Clenbuterol**. Officials said the incident involves up to 500 people but no deaths have been reported. [FoodSafetyNews](#), 1 page. (17.06.2022).

★★ **Salmonella Senftenberg:** In the United States, **Salmonella Senftenberg outbreak** has been linked to **peanut butter**. [CDC](#), 1 page. (26.05.2022).

★★ **Salmonella Newport:** A 2019 outbreak of **Salmonella Newport** in Sweden has been linked to **imported frozen cooked crayfish** in dill brine. [Eurosurveillance](#), 8 pages. (02.06.2022).

★ **Hepatitis A:** The FDA, along with CDC, the Public Health Agency of Canada and the Canadian Food Inspection Agency, state, and local partners are investigating a **multistate outbreak of hepatitis A** infections in the United States and Canada potentially linked to fresh **organic strawberries**. [FDA](#), 1 page. (28.05.2022).

Food safety

★★★ **Salmonella: Non-typhoidal salmonella** (NTS) remains a **significant health burden** worldwide. In Vietnam, **pork** accounts for 70% of the total meat consumed, and **contamination with Salmonella is high**. High levels of **antimicrobial resistance** have emerged among porcine NTS and of particular concern is the emergence of **colistin resistance**. [FrontVetSc](#), 15 pages. (29.03.2022).

★★★ **Pesticides:** The Swiss Federal food safety and veterinary office (FSVO) has published the report of its **2021 pesticide residue monitoring program**. Of the 414 samples analysed, **only one (0.2%) exceeded the maximum residue limit** (MRL). [FSVO](#), 20 pages. (17.06.2022). Contamination of **fresh fruits** by the **most hazardous pesticides** has dramatically **increased** in Europe over the past decade, according to a nine-year study of government data. [TheGuardian](#), 2 pages. (24.5.2022). Original publication: [PAN \(Europe\)](#).

★★★ **Mycotoxins:** A survey focused on the occurrence of **ochratoxin A (OTA)** and **sterigmatocystin (STC)** in **grated cheese products** obtained from hard grana-type cheeses. The collected data showed a **widespread and not negligible contamination** for both OTA and STC, which were found in 48.6% and 94.4% of the samples respectively. [Affidia](#), 1 page. (30.05.2022). Original publication: [Toxins](#).

★★★ **Cannabidiol:** EFSA's scientists **cannot currently establish the safety of cannabidiol (CBD)** as a novel food due to data gaps and uncertainties about potential hazards related to CBD intake. [EFSANews](#), 1 page. (07.06.2022). Original publication: [EFSAJournal](#).

★★★ **Gluconacetobacter liquefaciens:** A company is voluntarily **recalling** one lot of a magnesium citrate saline laxative **oral solution** to the consumer level. Testing identified the affected lot of the product to contain the bacteria **Gluconacetobacter liquefaciens**. [FDA](#), 1 page. (22.06.2022).

★★★ **Listeria:** An assessment of **Listeria controls at food companies** in Switzerland has shown **room for improvement**. When checking the implementation of protective measures in firms that manufacture products with an increased risk of **Listeria**, it was found that **two thirds of companies did not meet the food law requirements** and had **deficiencies**. [FoodSafetyNews](#), 2 pages. (10.06.2022). Original publication: [ACCS](#).

★★★ **Eggs:** A study conducted by an international team of researchers has found that in nearly 90% of the areas studied, levels of **cancer-causing dioxins** and **polychlorinated biphenyls (PCBs)** in free-range **eggs exceeded EU regulatory food limits**. [EurekAlert](#), 2 pages. (16.06.2022). Original publication: [EmergCont](#).

★★★ **Allergens:** A recent analysis shows **remarkable levels of undeclared allergens** on food labels. The study showed that **milk, gluten, and nuts** were the allergens **most often present without being declared** on the product labels. Also, 16.6% of the samples contained **two or more undeclared allergens**. Remarkably, a large quantity of undeclared allergens was present in products labelled as “free-from-allergen”. [Affidia](#), 1 page. (30.05.2022). Original publication: [Nutrients](#). According to Dutch authorities, **many firms** in the retail, artisan and catering sector **do not properly inform customers** about which allergens can be found in food. [FoodSafetyNews](#), 2 pages. (20.06.2022).

★★ **Anisakis:** A publication discusses **seafood safety** and **food-borne zoonoses** from fish. It examines the risk of **Anisakis** in the Portuguese population and **consumer risk perceptions** of fish consumption. [EFSAJournal](#), 10 pages. (25.05.2022).

★★ **Water:** A publication reports on a **worldwide review** of the occurrence of **organic, inorganic, and microbial contaminants** in **bottled drinking water**. [EnvSciPolResInt](#), 1 page (abstract), (07.06.2022).

★★ **Pine nuts: Inedible types of pine nut** may accidentally or fraudulently find their way onto the market and cause **lingering taste disturbances**. [VigilAnses](#), 2 pages. (05.2022).

★★ **Antimicrobial resistance:** A model has been developed to assess the **risk for consumers** from **antimicrobial-resistance** associated bacteria in **food**. [FoodSafetyNews](#), 2 pages. (30.05.2022).

★★ **Shellfish poisoning:** An article explores how **shellfish poisoning** is affecting human and animal health as a **consequence of global warming**. [OpenAccessGov](#), 3 pages. (16.06.2022).

★★ **Inspections:** Researchers have tried to find out if **inspection findings** can be used to **predict** where **food-borne outbreaks** may happen. [FoodSafetyNews](#), 2 pages. (05.06.2022), 2 pages. Original publication: [IntJEnvHealthRes](#).

★ **COVID-19:** A Chinese study describes the **safety risks associated with the COVID-19 virus** in the **cold foods supply chain**. The study’s researchers state that, while human-to-human transmission is still the main way that the COVID-19 virus spreads, there is **evidence of the cold foods supply chain** contributing to the **transmission** of the virus over long distances. [FoodSafety](#), 2 pages. (10.06.2022). Original publication: [Foods](#).

★ **Escherichia coli:** An American **cereal bar manufacturer** is recalling 4’196 individual protein bars because they have the potential to be contaminated with **pathogenic Escherichia coli**. (16.06.2022). [FDA](#), 1 page. (14.06.2022).

Food fraud

★★★ **Horses:** Belgian police have made six arrests as part of a **fraud investigation** involving **horses and other animals**. The probe found that animals, mainly horses, are given a **new identity** so they can be **diverted into the food chain**, sent to slaughter and their meat sold. [FoodSafetyNews](#). 2 pages. (03.06.2022)

★★ **Edible tags:** Biomedical engineers and researchers have developed an **edible silk tag** with a QR code, which scanned by a smartphone can then **confirm authenticity** of the whiskey or other liquids. [EurekAlert](#), 3 pages. (06.06.2022). Original publication: [ACS](#).

★★ **Olive oil:** A new tool has been developed to **verify the geographical origins** of **virgin olive oil**. [Phys.org](#), 3 pages. (20.05.2022).

★★ **Infant formula:** In 2019, the French directorate general of competition, consumer affairs and anti-fraud (DGCCRF) investigated the **infant formula category**. The results revealed that while the nutritional composition for the most part complied with regulations, the **majority of the products tested** exhibited **aberrant labeling**. [Trendeepro](#), 2 pages. (27.05.2022). Original publication: [DGCCRF](#).

★ **Oat:** Oat-based **snack foods** and **baked goods** are in high demand, but recent **crop shortages** have manufacturers scrambling to find a secure supply of this popular grain. Manufacturers of **gluten-free oat brands** will need to get creative to locate an **adequate supply of oats** and safely deliver products to consumers who require a gluten-free diet. [SF&WB](#), 2 pages. (20.05.2022).

Close up

- ★★★ **Vibrio parahaemolyticus:** In 2020, a **new serotype of *Vibrio parahaemolyticus* O10:K4** emerged and caused several **outbreaks** and **sporadic cases** in China. Phylogenetic analysis indicated that those strains are new variants of the sequence type 3 pandemic clone. The new serotype **may become dominant**, warranting enhanced investigations and surveillance. [EmerInfectDis](#), 2 pages. (06.2022).
- ★★★ **Circular economy: Circular production** systems aiming to minimize waste and reuse materials are a way to obtain a more sustainable food production system. However, such a circular food production system can also lead to the **accumulation and recirculation of chemical hazards**. [CritRevFoodSci](#), 5 pages. (25.05.2022).
- ★★★ **Hepatitis E:** A new publication describes the **distribution of the Hepatitis E virus-3 (HEV-3) subtypes** in Spain between 2009 and 2019. The authors conclude that **surveillance of the subtypes and subclusters**, and the comprehensive **epidemiological characterisation of clinical cases**, could provide a useful tool for **food-tracking** in these cases, identifying sources of transmission and contributing to the establishment of control measures at the national and European levels. [Eurosurveillance](#), 5 pages. (25.05.2022).
- ★★★ **Fish:** A study has been published suggesting that **fish consumption** can be **linked to higher risk of melanoma**. [FoodNavigator](#), 2 pages. (20.06.2022). Original publication: [CancerCausesContr](#).
- ★★★ **Antibiotic resistance:** Bacteria causing **Typhoid fever** are becoming **increasingly resistant** to some of the most important antibiotics for human health. The largest genome analysis of *Salmonella enterica* serovar Typhi (S. Typhi) also reveals that **resistant strains** - almost all originating in South Asia - **have spread** to other countries nearly 200 times since 1990. [EurekAlert](#), 3 pages. (21.06.2022). Original publication: [LancetMicrobe](#).
- ★★★ **Water:** The biologically active, slow-flow **sand filters of lake water treatment** would **remove nanoplastics** from the raw water very efficiently. This was shown both in the laboratory and in larger, realistic tests and modelling. [eawag](#), 3 pages. (31.05.2022). Original publication: [JHazMat](#).
- ★★ **Pesticides:** Monitoring of **pesticide amount in water and drinkable food** could be made easier thanks to a **fluorescence-based biosensor**. [EFSA Journal](#), 9 pages. (25.05.2022). Swedish researchers have developed a **tiny sensor** for detecting **pesticides on fruit** in just a few minutes. The technique uses flame-sprayed nanoparticles made from silver to increase the signal of chemicals. [EurekAlert](#), 2 pages. (07.06.2022). Original publication: [AdvSc](#).
- ★★ **Seaweed:** A research team is addressing the **lack of regulatory oversight** of **edible seaweed** by studying the effect that various food safety control measures have on the presence of pathogens on the crop. The researchers also explain why **seaweed should not be regulated as shellfish**. [FoodSafety](#), 2 pages. (02.06.2022).
- ★★ **Global strategy:** At the 75th Session of the World health assembly in May, World Health Organization (WHO) Member States approved the **new WHO Global Strategy for Food Safety 2022–2030**. The strategy addresses current and emerging food safety challenges, takes into consideration **new technologies**, and includes innovative approaches for **strengthening food safety systems**. [FoodSafety](#), 2 pages. (10.06.2022). Original publication: [WHO](#).
- ★★ **Nutrition:** There is **widespread confusion** among people of all ages about **which foods** do and do not count towards your **5-a-day** or provide certain nutrients, including fibre and protein, reveals a survey conducted by the British Nutrition Foundation. [FoodNavigator](#), 2 pages. (13.06.2022). A survey carried out in **Switzerland** revealed that the Swiss are becoming **less informed about nutrition**. The **youngest generation** in particular is **not very interested** in nutritional education and also considers prevention and education to be unimportant. [FoodAktuell](#), 2 pages. (13.06.2022). Original publication: [IGErfrischungsgetränke](#). **Babies** fed the new **Nordic diet** of fruit, berries, roots, and vegetables, as well as breast or formula milk, from the age of 4-6 months of age, were **eating almost double the number of vegetables** than those fed a conventional diet, by 18 months of age. [EurekAlert](#), 2 pages. (22.06.2022).
- ★★ **Salmonella:** Poultry is responsible for more than **one out of every five cases of *Salmonella* infection** in the United States, but traditional methods of testing the chicken off the grocery shelf may **not be enough** to detect all strains of the bacteria. [EurekAlert](#), 3 pages. (07.06.2022). Original publication: [ApplEndMicr](#).
- ★★ **Meat inspection:** The UK FSA published the “21st Century Meat Inspector” project report. The project investigated how **new and existing inspection technologies** can be combined with **advanced data analytics** to **improve meat inspection practices**, with a focus on poultry. [FoodSafety](#), 2 pages. (03.06.2022). Original publication: [FSA](#).
- ★★ **Methionine:** Research reveals the mechanisms whereby **methionine-deficient** and **methionine-supplemented** diets can **alter gene expression** and **damage liver cells**. [EurekAlert](#), 3 pages. (15.06.2022). Original publication: [FoodChemTox](#).
- ★★ **Allergy: Micronutrient deficiencies** can **promote inflammation** and render the immune system particularly **sensitive to allergenic substances**. In particular, iron deficiency signals danger to immune cells and leads to a more pronounced, exaggerated immune response. [EurekAlert](#), 2 pages. (07.06.2022). Original publication: [JAICImmPr](#).

★ **DNA-based sensors:** Emerging DNA-based sensors are **promising tools for food safety**. In a recent study researchers discussed the current trends, challenges, and future of this technology in **real-time** and **rapid food contaminants analysis**. [NewsMedLifeSci](#), 3 pages. (18.05.2022). Original publication: [TrAC](#).

★ **Vitamin D:** By measuring the maximum concentration over time, Danish researchers found **bioavailability of vitamin D** to be **high in milk and water**. [FoodNavigator](#), 2 pages. (01.06.2022).

★ **Omega-3:** While there is some evidence that **consuming omega-3 fatty acids** in food or dietary supplements may **reduce the risk of high blood pressure**, the **optimal amount** to consume for this benefit is **unclear**. A review of dozens of studies suggests that the optimal amount of omega-3 fatty acids to consume to lower blood pressure is **likely about 3 grams daily**. [EurekAlert](#), 3 pages. (02.06.2022). Original publication: [JAmHeartAssoc](#).

★ **Polyphenols:** Polyphenols in foods can **prevent inflammation** in older people by **altering the intestinal microbiota** and inducing the **production of 3-Indolepropionic acid**, a potent neuroprotective antioxidant produced by the human gut microbiota. [Food Navigator](#), 2 pages. (09.06.2022). Original publication: [MolNutrFoodRes](#).

★ **Mental health: Intestinal flora** plays an **important role** in health – including **mental health**. Swiss researchers have shown that **probiotics** can **support the effect of antidepressants** and help to alleviate depression. [EurekAlert](#), 2 pages. (05.06.2022). Original publication: [TransPsy](#).

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Seismo Info 06/2022



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

Food trends

★★★★ **Influencers:** Most **food and drink** content posted by German influencers on social media is so **unhealthy** it fails World Health Organisation (WHO) **advertising standards** for children, claims research from the Medical University of Vienna. [FoodNavigator](#), 2 pages. (09.05.2022).

★★★★ **From leaf to root:** The food trend "from leaf to root" consists in **using leaves, peels, roots and stems** of fruits and vegetables for **preparing dishes**. There are now cookbooks and online recipes on the subject. However, the cooking trend is **not recommended**, according to the German federal office of consumer protection and food safety (BVL). [BVL](#), 1 page. (10.05.2022).

★★★ **Precision fermentation:** A Sweden-based company has developed a **precision fermentation-derived beef fat alternative**. [FoodNavigator](#), 3 pages. (05.05.2022). An Austrian company claims its precision fermentation process delivers **casein proteins** with the same superior functional properties and nutritional profile of real cheese and allows producers to produce **cow-free cheese** at scale. [FoodNavigator](#), 2 pages. (05.05.2022).

★★ **Packaging:** Given that 40% of all emissions in **wine** production comes from the manufacturing and transport of glass, a UK wine company is rethinking conventional glass packaging by using **paper bottles**. [FoodNavigator](#), 2 pages. (06.05.2022). A major producer of **Ketchup** is developing a recyclable **paper-based bottle**. [FoodAktuell](#), 1 pages. (20.05.2022).

★★ **Breast milk substitutes:** The International Code of Marketing of Breast-milk Substitutes specifies that there should be **no advertising** or other form of promotion of **breast-milk substitutes**; however **it does not directly address** many of the specific strategies used in **digital marketing**. A report examines the scope, techniques and impact of digital marketing strategies for the promotion of breast-milk substitutes. [WHO](#), 25 pages. (28.04.2022).

★★ **Meat alternatives:** An article discusses the future possibility that **veggie burgers** become the **menu default** and beef a special request? [Anthropocene](#), 2 pages. (17.05.2022). Original publication: [PLOSClimate](#).

★★ **Photodynamic treatment:** Photodynamic treatment has been introduced for **inactivating food spoilage** and **pathogenic microorganisms** as a promising cost-effective, chemical-free, environmentally friendly technique with no reports on toxic residues and microbial resistance. The application and efficiency of photodynamic treatment in various food matrices against a broad range of microorganisms demonstrates the **potential** of using this technology in the **food industry**. [MicrobiologyAustralia](#), 4 pages. (17.05.2022).

★★ **Gene editing: Tomatoes** gene-edited to produce **vitamin D** could be a simple and sustainable innovation to address a global health problem. [ScienceDaily](#), 2 pages. (23.05.2022). Original publication: [NaturePlants](#).

★★ **Insect fat:** Based on research by Swedish scientists, a recent publication discusses whether **insect-derived fatty acids**, fuelled by mixed food waste, could in the future **replace conventional dietary** fat in feed and food applications. [FoodNavigator](#), 3 pages. (20.05.2022).

★★ **Edible coatings:** A review explores the uses that are currently given to **edible coatings**, the physicochemical properties of biopolymers used as coatings, as well as the effects that the application of edible coatings have on **quality** of **fruits**. [FoodControl](#), 10 pages. (09.2022).

★ **Chocolate:** A UK start-up is launching what it claims to be the 'world's first' **cacao-free chocolate**, made from two barley and carob. [FoodNavigator](#), 2 pages. (11.05.2022).

★ **Alkaline products:** Acids supposedly make you sick, according to sellers of alkaline products. As an example, a brand of **mineral water** is advertised as alkaline and therefore **particularly healthy**. A publication questions this trend. [Gesundheitstipp](#), 4 pages. (11.05.2022).

★ **Edible tape:** Engineering students prototyped an **edible adhesive tape** to keep burritos and other wrapped foods sealed up during consumption. [Boingnboing](#), 1 page. (16.05.2022). Original publication: [JHU](#).

Unusual outbreaks

★★ **Drinking water:** A waterborne **typhoid fever** outbreak sickened more than 20 people in China earlier this year. The outbreak, involving 23 persons, was caused by **extensively drug-resistant** (XDR) **Salmonella Typhi** through a polluted water supply. [FoodSafetyNews](#), 2 pages. (15.05.2022). Original publication: [ChinaCDCWeekly](#).

★★ **Tropane alkaloids:** Researchers have provided more details about an **outbreak** traced to **contaminated food aid** in Uganda in 2019 that **killed five people**. It was the largest documented outbreak caused by food contamination with **tropane alkaloids**, according to the published study. [FoodSafetyNews](#), 2 pages. (06.05.2022). Original publication: [BMCPublicHealth](#).

★ **Botulism:** In Italy, a type of **pesto** has been linked to a case of **foodborne botulism**. The laboratory-confirmed case occurred in Rome and was reported by Italian officials. An epidemiological investigation has placed suspicion on a Sicilian broccoli and almond pesto. [FoodSafetyNews](#), 2 pages. (12.05.2022).

Food safety

★★★ **Chocolate:** Israel is in the midst of the **biggest product recall** in the country's history, as numerous lines made by its biggest **confectionary producer** are suspected of containing **Salmonella**. [TimesOfIsrael](#), 3 pages. (27.04.2022). More information: [IsraelMinistryOfHealth](#).

★★★ **Clostridioides difficile:** The role of food in **Clostridioides difficile** transmission chains still needs to be clarified, according to a study. The bacteria has been **isolated from various foods** and experts believe it is feasible that some of them could be **important vectors** for its widespread dissemination. [FoodSafetyNews](#), 2 pages. (10.05.2022). Original publication: [Eurosurveillance](#).

★★★ **Ciguatoxins:** Poisoning with **ciguatoxins** after eating **sea fish** is rare in Germany. However, ciguatera is one of the most frequent fish poisonings worldwide that does not have a bacterial origin. Against the background of the **expansion of the global trade** in sea fish from all the world's oceans, an **increase in ciguatera** cases is therefore also to be expected in Germany in the future. [BfR](#), 3 pages. (16.05.2022).

★★★ **Food-contact materials:** A team of scientists, together with colleagues from eight academic institutions, analyzed more than 1'200 **scientific studies** where chemicals had been measured in **food contact materials** (FCMs) and identified **more than 3'000 potentially harmful chemicals**, two-thirds of which were **not previously known** to be in contact with food. [Affidia](#), 1 page. (20.05.2022). Original publication: [FPF](#).

★★ **Salmonella Infantis:** Some brands of **chicken** on the Italian market have **traces of Salmonella**. This has now been confirmed to be the species *Infantis*, one of the **super antibiotic-resistant** species of *Salmonella*. [Telem-biente](#), 1 page. (05.05.2022). In the Czech Republic, *Salmonella Infantis* was found in **chicken meat** during an official inspection. [FoodWorld](#), 1 pages. (03.05.2022).

★★ **Coronavirus:** According to new research, Coronaviruses are **stable on glass**, but are **eliminated by manual dishwashing** procedures. [FoodMicrobiology](#), 7 pages. (04.05.2022).

★★ **Aflatoxins:** As **climate change** continues to alter weather patterns around the planet including the American Midwest, American researchers modelled the **impact on crops** such as corn, predicting an **increase in aflatoxin** problems over the next 10-20 years. [EurekAlert!](#), 2 pages. (04.05.2022). Original publication: [EnvironResLett](#). (25.04.2022).

★★ **Saxitoxins:** In Guatemala, a **red tide alert** was declared because the constant monitoring and analysis carried out showed **high concentrations of saxitoxins** above the appropriate limits. For this reason, bivalve mollusks, such as mussels, clams, and shells must not be consumed. [OutbreakNewsToday](#), 1 page. (10.05.2022). Updated information accounts for **more than 30 sick persons** and **four dead following** consumption of the contaminated shellfish. [FoodSafetyNews](#), 2 pages. (24.05.2022).

★★ **Vibrio parahaemolyticus:** In China, a **new serotype** with pandemic potential of *Vibrio parahaemolyticus*, O10:K4, was detected in 2020 and **became dominant** in 2021. [IntJInfecDis](#), 24 pages. (11.05.2022).

★★ **PFAS:** Four out of 17 certified **organic pasta sauce** products tested positive for per- and polyfluoroalkyl substances (PFAS). The presence of PFAS in organic products poses a **great challenge to the organic industry**, creating "tremendous unease and a lack of trust among consumers". [Affidia](#), 1 page. (17.05.2022). More information: [Mamavation](#).

★ **Poppy seeds:** In Canada, **blue organic poppy seeds** are being **recalled** because of possible **Salmonella** contamination. [FoodSafetyNews](#), 1 page. (03.05.2022). More information: [GovCanada](#).

★ **Microplastics:** **Broken-down microplastics** have been found in **blue mussels** and **water** within the intertidal zone at some areas in southern Australia, sparking fears they are now finding their way into **food supplies**. [FoodNavigator](#), 2 pages. (04.05.2022).

Food fraud

★★★ **Oil:** Indonesia's **export ban** on palm oil has industry watchers anticipating a **surge in the cost** of edible oils, including sunflower oil, soybean oil and rapeseed oil. Even prior to this, the global stocks of key edible oils have already been tightly squeezed due to inflationary price swings, unfavorable weather conditions and Russia's invasion of Ukraine. [Foodingredients1st](#), 2 pages. (02.05.2022). Italian police seize €170,000 of **mislabelled olive** oil following one of the country's most extensive operations against the sale of mislabelled olive oil. [OliveOilTimes](#), 2 pages. (09.05.2022).

★★★ **Seafood:** An American **seafood broker** was sentenced for **smuggling** goods from the United States, by falsifying documents and lying to authorities on disposing of 46 cases of potentially **tainted geoduck** from Alaska. The seafood had been harvested from an area that had not been approved for harvest and **not tested for Saxitoxins, the toxins** that cause paralytic shellfish poisoning. [ForeignAffairs](#), 2 pages. (18.05.2022).

★ **Cheese:** A **cheese mark** made from **casein**, integrated with a **silicon microchip**, has been developed to help the Parmigiano Reggiano Consortium guarantee the **authenticity** of producers' products. [FoodNavigator](#), 2 pages. (12.05.2022).

★ **Food origin: Fruits and vegetables** of Moroccan, Egyptian, and Turkish origin were **fraudulently labeled** as Spanish. [MoroccoWorldNews](#), 2 pages. (09.05.2022). More information: [El Pais](#).

★ **Sourdough bread:** In the United Kingdom, supermarkets have been slammed for **"misleading" customers** by labelling bread as "sourdough" mixtures when their **ingredient list** contains **up to 15 items**. [Express](#), 1 page. (25.04.2022).

Close up

★★★★ **Legionella:** The number of **legionellosis** cases in **Switzerland** has **increased five-fold** over the past 20 years. The Swiss tropical and public health institute analyzed case numbers from 2000 to 2020 and determined the **potential impact of the COVID-19 pandemic** on reporting. The researchers also found that the **summer peaks** of legionellosis have become **more pronounced** in recent years. Switzerland has one of the **highest legionellosis incidence** in Europe. [SwissTPH](#), 2 pages. (02.05.2022). Original publication: [IntJHygEnvirHeal](#).

★★★★ **Poultry:** Researchers in Israel have **genetically modified chickens** using CRISPR/Cas so that no male offspring hatch. **Eggs and laying hens** derived from these transgenic chickens could be **placed on the market** in the EU without an authorisation procedure and without labelling, according to an article published recently. [TestBioTech](#), 1 page. (04.03.2022).

★★★★ **Antibiotic resistance:** Healthy adults who eat a diverse diet with at least **8-10 grams of soluble fiber** a day have **fewer antibiotic-resistant microbes** in their guts, according to a new study. The results lead directly to the idea that modifying the diet has the potential to be a new weapon in the fight against antimicrobial resistance. [ScienceDaily](#), 2 pages. (10.05.2022). Original publication: [mBio](#).

★★★★ **Microplastics:** The **sludge** created through sewage treatment processes is **rich in nutrients**, making it an excellent source of fertilizer for agriculture. But a study has now demonstrated how the material acts as a **vehicle for huge amounts of plastic fragments** to enter soils. The authors suggest Europe's farms could be acting as the world's largest reservoir for microplastics pollution. [NewAtlas](#), 2 pages. (08.05.2022). Original publication: [SierraClub](#).

★★★★ **Climate change:** Climate change was found to have a **major influence** on the distribution and severity of **hepatic diseases**, such as outbreaks of vector-borne, water or food-borne, parasitic diseases, re-emerging of disappeared diseases, or emerging of new forms of infectious agents. A new publication confirms the role of climate change in changing the pattern of several liver health problems and remapping of these problems in several regions of the world. [CurrEnvironHealthRep](#), 16 pages. (28.04.2022). Climate change will force large numbers of **wild animals to relocate** in the next 50 years, dramatically **increasing the chances** that **viruses** will jump from one species of mammal to another, including humans, a new study says. [Medscape](#), 1 page. (02.05.2022). Original publication: [Nature](#).

★★★ **Dietary fibers:** The **health benefits** of dietary fiber vary across individuals and may depend on the **specific type of fiber** and the **dose** consumed, a landscape of factors resulting from interactions between fiber, the gut microbiome, and host. [ScienceDaily](#), 2 pages. (28.04.2022). Original publication: [CellHostMicrobe](#).

★★★ **Obesity:** The World Health Organization (WHO) has released a new report describing the lack of progress on controlling **rising rates of overweight** and **obesity** across Europe. **No European nations are on track** to achieve the obesity goals set out by the WHO in 2015, according to the report. The organization proposes addressing societal factors that undermine healthy nutrition. [MedicalNewsToday](#), 3 pages. (12.05.2022). More information: [WHO](#).

★★ **Vitamin B12:** Vitamin B12 **deficiency** in infants leads to poor motor development and anemia, according to a new study. B12 deficiency is an **enormous, yet overlooked problem**. According to the researchers, the problem calls for new solutions. [ScienceDaily](#), 2 pages. (03.05.2022). Original publication: [PLOSMed](#).

★★ **PFAS:** Engineers report for the first time **selective breakdown** of a particularly stubborn class of PFAS called fluorinated carboxylic acids (FCAs) **by common microorganisms**. [ScienceDaily](#), 2 pages. (23.05.2022). Original publication: [EnvirSciTech](#).

★ **Vegetarianism:** The results from a Canadian longitudinal cohort study found **no clinically meaningful differences** in height, growth, or biochemical measures of nutrition in young **children** on **vegetarian** and **non-vegetarian** diets. However, vegetarian diet was associated with higher odds of underweight, underscoring the need for careful dietary planning for underweight children when considering vegetarian diets. [Medscape](#), 3 pages. (02.05.2022). Original publication: [Pediatrics](#).

★ **Gut bacteria:** Researchers have equipped **gut bacteria with data logger** functionality as a way of monitoring which genes are active in the bacteria. These microorganisms could one day offer a noninvasive means of diagnosing disease or assessing the **impact of diet** on health. [ScienceDaily](#), 3 pages. (12.05.2022). Original publication: [Science](#).

★ **Cancer:** Researchers have proved that a **direct link** exists between the **amount of fat** included in one's diet and bodily **levels of nitric oxide**, a naturally occurring signaling molecule that is related to **inflammation and cancer** development. [EurekAlert!](#), 2 pages. (17.05.2022). Original publication: [ACS](#).

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Seismo Info 05/2022



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

Food trends

★★★★ **Lab-grown food:** An Israeli start-up is repurposing **tobacco plants** in attempt to overcome the greatest hurdle facing the cultivated meat industry: scaled production. The start-up is repurposing tobacco plants to create the growth factors necessary for the cellular development of **cultivated meat**. [FoodNavigator](#), 2 pages. (29.03.2022). A new publication discusses **opportunities and challenges** of lab-grown foods. [Sifted](#), 4 pages. (04.04.2022).

★★★★ **Breast milk substitute:** Breastfeeding has long been promoted as the most effective way to ensure child health and survival. A start-up now is producing **cell-cultured human milk** “humanizing” bovine formula. [FoodNavigator](#), 2 pages. (25.4.2022).

★★★ **Climate change:** Scientists analyzed Canadian **seafood restaurant menus** from four time periods, spanning 1880 to 2021, with the aim of identifying trends potentially linked with **rising water temperatures** due to **climate change**. [ScienceDaily](#), 1 page. (21.04.2022). Original publication: [EnvironBiolFish](#).

★★★ **Packaging:** A company has introduced an **antibacterial coating** on films for food packaging. It is claimed that the coating reduces the bacteria present on packaging by 95%. [DairyReporter](#), 1 page. (31.03.2022).

★★★ **Nitrites:** Dutch food engineers have developed an innovative biotech solution that can **replace** the controversial use of **nitrites** in meat products like **bacon**, while maintaining a stable pink appearance. [FoodNavigator](#), 2 pages. (22.04.2022).

★ **Poultry meat:** Meat from **chickens raised on insects or algae** has a **distinct color**, a reddish-yellow hue. An article discusses how consumers react on it. [Anthropocene](#), 2 pages. (22.04.2022).

★ **Magic mushrooms:** In the United States, a movement to **decriminalize** or **legalize** psychedelic substances such as “**magic mushrooms**” is being driven in a similar way that led to decriminalization of cannabis over the past decade. [Politico](#), 4 pages. (23.03.2022).

★ **Sugar:** A new study suggests that British **toddlers** and **children** consume **too much added sugar**. Analysis of the UK’s largest contemporary dietary dataset of toddlers found that only 16% of those aged 21 months, and less than 2% of 7-year-olds, met the recommended intake of free sugars. [EurekAlert!](#), 2 pages. (30.04.2022).

★ **Vending machines:** In the United States, a company has launched the country’s first **burger vending machine**. Once a customer orders a burger, the machine uses a five-step process by which a robot grills a hamburger patty, toasts the bun, dispenses selected condiments including ketchup and mustard, assembles the burger, then presents it to the customer. [Xtalks](#), 2 pages. (18.04.2022).

Unusual outbreaks

★★★ **Oat milk:** A brand of oat milk has received **29 complaints**, and 2 people reported stomach illness. Detection of **Bacillus cereus** led to the recall of products in two European countries, Finland and Estonia. [FoodSafetyNews](#), 1 page. (01.04.2022).

★★★ **Chocolate:** Some **chocolate eggs** have been recalled over a link to 63 United Kingdom cases of **Salmonella** mostly in young children. More cases have reportedly been recorded in Europe, including Ireland, France, Germany, Sweden and the Netherlands. [BBC](#), 2 pages. (04.04.2022). The outbreak, related to **Salmonella Typhimurium** sequence type (ST) 34, is rapidly evolving. The **recalls** and **withdrawals** launched **worldwide** will reduce the risk of further infections. Risk assessment performed by [EFSA/ECDC](#), 15 pages. (12.04.2022).

★★ **Hepatitis:** The UK Health Security Agency (UKHSA) has detected higher than usual rates of **liver inflammation** (hepatitis) in children. Similar cases are being assessed in Scotland. In England, there are approximately 60 cases under investigation in children under 10. [UKHSA](#), 3 pages. (12.04.2022). More information: [ECDC](#), [ECDC](#), [WHO](#). New evidence indicates that the outbreak may be linked to **adenovirus**. [MedNewsToday](#), 3 pages. (26.04.2022).

★ **Breakfast cereals:** In the United States, **hundreds of people** have complained about stomach aches, vomiting and diarrhea after eating a popular brand of **breakfast cereals**. [FoodSafetyNews](#), 1 page. (05.04.2022). More information: [FoodDive](#), [FDA](#).

Food safety

★★★ **Pathogenic yeasts: Fungicides** used to prolong shelf life of fruits may select for **multidrug-resistant pathogenic yeasts** and boost transmission, according to a new study. [EurekAlert!](#), 2 pages. (31.03.2022). Original publication: [mBio](#).

★★★ **Pesticides:** EFSA’s annual report on pesticide residues in food covers more than 88’000 food samples collected in the European Union in 2020. **94.9% of samples** fell within **legally permitted levels**. [EFSA](#), 2 pages. (30.03.2022). More information: [EFSA Journal](#), [Dashboard](#).

★★★ **Meat alternatives:** An article discusses **safety and nutritional risks** associated with **plant-based meat alternatives**. Several challenges are associated with newer plant-based foods, including allergen, chemical, quality, and microbiological concerns. [FoodSafetyMagazine](#), 4 pages. (April/May 2022). A California-based company has developed an **alt meat** made using **microbes** that turn **recycled carbon dioxide into protein**. The product is designed to replicate the flavor and texture of real meat products like chicken, pork, steak and seafood. [Xtalks](#), 2 pages. (26.04.2022).

★★★ **Staphylococcus argenteus**: Japanese scientists found potential food contamination routes of a **newly identified foodborne pathogen**, *Staphylococcus argenteus*. In a recent study, the researchers sought to examine the prevalence of *S. argenteus* in foods such as vegetables, fish, chicken, beef, and pork from retail stores. *S. argenteus* genetic material was found in **13.9% of the tested chicken samples**. [OsakaMetUni](#), 2 pages. (21.04.2022). Original publication: [IntJFoodMicrobiol](#).

★★ **Microplastics**: Scientists investigated the association of *Toxoplasma gondii*, *Cryptosporidium parvum*, and *Giardia enterica* with **polyethylene microbeads** and **polyester microfibers**. The study demonstrated a novel pathway by which anthropogenic pollutants may be mediating pathogen transmission in the marine environment, potentially impacting human health. [NatureSciReports](#), 11 pages. (26.04.2022).

★★ **Nanoparticles: Nylon cooking bags** and **plastic-lined cardboard cups** are conveniences many people rely on, but a new study suggests that they are a source of nanoparticles. They report that the plastic in these products release **trillions of nanometer-sized particles** into each liter of water that they come in contact with. [ScienceDaily](#), 2 pages. (21.04.2022). Original publication: [EnvirSciTech](#).

★★ **Freekeh**: Freekeh, also known as firik bulgur or similar, is **unripe wheat** that has been harvested, dried and roasted. In Germany, authorities examined 2021 freekeh samples as part of a nationwide monitoring project. None of the nine samples examined complied with all food law requirements. [UA-BW](#), 2 pages. (06.04.2022).

★★ **Salmonella Napoli**: On the occasion of an international agricultural show, the French Health Safety Agency (ANSES) provides an update on **emerging microbiological hazards**. At present, **Salmonella Napoli** is the subject of **extensive research**. [ProcessAlimentaire](#), 1 page. (28.02.2022).

★★ **Cannabis**: A drug testing charity in the UK is warning **dangerous synthetic cannabis**, sold as marijuana **sweets**, could be putting buyers at risk of death. [BBCNews](#), 2 pages. (08.04.2022). Some cannabis edibles look remarkably like popular snack foods and may be easily **confused** for them, finds a new American study. [NYU](#), 2 pages. (19.04.2022).

★ **Lead**: The US Food and Drug Administration (FDA) released a draft guidance providing information to companies and manufacturers on the **action levels** for **lead** in **ready-to-drink juices and juice blends**. Lead can migrate into juice through sources such as equipment and machinery used to make juice. [Affidia](#), 1 page. (29.04.2022). Original publication: [FDA](#).

Food fraud

★★★ **Seafood**: Supermarket-bought imported seafood has been identified as the **main source of seafood adulteration** in Singapore. DNA barcoding revealed a **26% mislabelling rate**. [FoodNavigator](#), 2 pages. (28.03.2022). Original publication: [FoodControl](#).

★★★ **Ukraine**: An article discusses how Russia's invasion of Ukraine may **impact meat production**, consumption, and exports. [FoodNavigator](#), 3 pages. (04.04.2022). **Food adulteration** cases could **rise** as companies seek alternatives to foodstuffs, such as sunflower oil, impacted by the conflict in the Ukraine. [FoodNavigator](#), 2 pages. (27.04.2022).

★★ **Early warning**: Researchers in the Netherlands and the UK have found that an **early warning system** for food fraud, based on monitoring of media outlets from around the world, is an **effective tool**. [SecuringIndustry](#), 1 page. (20.04.2022). Original publication: [FoodControl](#).

★ **Greenwashing**: As consumers become more interested in the **environmental impact** of their products and services, businesses are facing intense pressure to be greener. This also gives way for a **new type of fraud**, according to a new article. [NewFood](#), 2 pages. (15.04.2022). Denmark is investing DKK 9m (€1.2m) in the development of a **government-run climate label for food**. [FoodNavigator](#), 2 pages. (19.04.2022).

Close up

★★★ **PFAS:** A new study finds that **exposure to per- and polyfluoroalkyl substances (PFAS)** - a large and diverse group of industrial chemicals found in many everyday products - is associated with an **increased risk** of developing **diabetes** in midlife women. [ScienceDaily](#), 2 pages. (11.04.2022). Original publication: [Diabetologia](#).

★★★ **Microbiome:** A new study examines the ability of the human gut microbiome to **digest xanthan gum**, a relatively recently introduced food ingredient found in many processed foods. The results hint that widespread consumption of the food additive **may actively alter the gut microbiome**. [ScienceDaily](#), 1 page. (14.04.2022). Original publication: [NatureMicrobiology](#).

★★★ **Mycotoxins:** In a study from the Federal Food Safety and Veterinary Office (FSVO), biomarkers of **ochratoxin A (OTA) and citrinin (CIT) exposure** were determined in a large number of serum samples from healthy blood donors in Switzerland. **OTA** was found to be the **prevalent** mycotoxin in human serum samples in Switzerland. [MycotoxinRes](#), 15 pages. (20.04.2022).

★★★ **Antibiotic resistance:** Antibiotic resistance in **Salmonella** and **Campylobacter** is still **high**, says a report released by the European Centre for Disease Prevention and Control (ECDC) and the European Food Safety Authority (EFSA). [ECDC](#), 1 page. (29.03.2022). Full report: [ECDC](#). In the United States, the National antimicrobial resistance monitoring systems report shows **rising antimicrobial resistance** in **Salmonella** and **Campylobacter**. [CIDRAP](#), 2 pages. (20.04.2022). Experts have developed a **software** which combines DNA sequencing and machine learning to help them find where, and to what extent, antibiotic resistant bacteria is being transmitted between humans, animals and the environment. [ScienceDaily](#), 1 page (21.04.2022). Original publication: [PLOS](#).

★★★ **Dietary fibers:** A study showed that **total fiber**, and more specifically cereal fiber but not fruit or vegetable fiber, was consistently associated with **lower inflammation and lower cardiovascular disease incidence**. [ScienceDaily](#). 2 pages. (06.04.2022). Original publication: [JAMANetwork](#).

★★★ **Nutrition:** Researchers have identified an **optimal diet** to extend **longevity** comprising of various aspects of diet, from food composition and caloric intake to the length and frequency of fasting periods. [Neuroscience](#), 2 pages. (28.04.2022). Original publication: [Cell](#).

★★★ **Recalls and outbreaks:** Researchers have explored **risk factors** of recall-associated **foodborne disease outbreak** in the United States from 2009 – 2019. [IntJEnvResPubHe](#), 20 pages. (19.04.2022).

★★★ **Pregnancy:** An analysis of health and dietary data for more than 8,500 pregnant women found that greater adherence to a **Mediterranean-style eating plan** was associated with a **lower risk of preeclampsia**. The reduction in risk of preeclampsia was greatest among Black women -- a population at high risk for preeclampsia. [ScienceDaily](#), 2 pages. (20.04.2022). Original publication: [JAmHeartAssoc](#).

★★★ **Tick-borne encephalitis virus:** Tick-borne encephalitis virus (TBEV) is transmitted mainly by tick bites, but humans can acquire infection through consuming **unpasteurized milk from infected animals**. Researchers now report a case of probable **transmission** of TBEV from an unvaccinated **mother to an infant through breast-feeding**. [CDC](#), 2 pages. (05.2022).

★★★ **Trifluoroacetate:** **Drinking water** samples analyzed in Switzerland were found to be **contaminated** by the substance trifluoroacetate (TFA). The substance was also found in bottled water. [SRF](#), 16 minutes (video). (26.04.2022).

★ **Avocado:** A 30-year study of more than 110'000 health professionals found that participants who ate at **least two servings of avocado a week** had a **lower risk of cardiovascular disease** compared to those who rarely ate avocados. Replacing animal products like butter, cheese or bacon with avocado was also associated with a lower risk of cardiovascular disease events. [ScienceDaily](#), 2 pages. (30.03.2022). Original publication: [JAMHeartAssoc](#).

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Seismo Info 04/2022



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The FSVO compiles the most important food safety information every month:

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

Food trends

★★★★ **Casein:** A Dutch start-up recently developed a **vegan version of casein** using precision fermentation. The technology would make it possible to replace cow's milk with no loss of flavour, texture or quality. [XTalks](#), 1 page. (24.01.2022). An Israeli company has also developed a technology that can **produce dairy proteins** using natural precision fermentation. [XTalks](#), 1 page. (24.02.2022).

★★★ **Packaging:** Scientists have developed a new "**green plastic**" produced from **gelatine, clay** and a nano-emulsion of black pepper **essential oil**. [FoodNavigator](#), 2 pages. (09.03.2022). **Insect wings** are inspiring new **antibacterial packaging**: scientists have developed a natural antibacterial texture for use on food packaging to improve shelf life and reduce waste. [ScienceDaily](#), 1 page. (21.03.2022). Original publication: [ACSAppINanoMater](#).

★★ **Palm oil:** Scientists in Singapore have produced oils from **microalgae** that could be a **sustainable alternative to palm oil** in food production. [NewFoodMagazine](#), 2 pages. (17.03.2022). More information: [ntu](#).

★ **Okara: Fermented soybean waste**, or okara, could improve fat metabolism and **mitigate the effects of diet-induced obesity**. Researchers hope that this discovery will pave the way for integrating okara into **health foods**, helping to solve food waste and obesity problems. [ScienceDaily](#), 3 pages. (22.03.2022). Original publication: [Metabolites](#).

★ **Social media**: Spain has proposed a **ban** on influencers, sports celebrities and TV presenters **advertising food and drink that is high in fat, salt or sugar (HFSS)** to children. [FoodNavigator](#), 3 pages. (10.03.2022).

★ **Bakery trends**: An article examines **future trends** in bakery produce. [BritishBaker](#), 4 pages. (01.03.2022).

Unusual outbreaks

★★★ **Escherichia coli**: The withdrawal of **frozen pizzas** contaminated with **E.coli** is a source of concern across France. Since the start of the year, these bacteria have been the cause of serious infections in 12 regions. [LeProgrès](#), 1 page. (18.03.2022). More information: [LeMatin](#).

★★ **Yersinia pseudotuberculosis**: An epidemiological investigation has identified **tomatoes** as the cause of an **outbreak of Y. pseudotuberculosis** in France during 2020. [BioRxiv](#), 27 pages. (25.03.2022).

Food safety

★★★ **Bacillus thuringiensis**: Evidence suggests that **B. thuringiensis biopesticide residues** on foods may cause **diarrhoeal syndrome** in humans. A recent publication, commissioned by the Federal Food Safety and Veterinary Office (FSVO), concluded that the risk assessment must move from a taxonomy-based risk assessment to a **strain-specific risk assessment**. [FoodMicrobiol](#), 38 pages. (23.03.2022).

★★★ **Antibiotic resistance**: According to a new study, **dairy products** contain antibiotic **resistance genes** within **infectious phage** particles, and could therefore act as a reservoir of antibiotic resistance that could be mobilised to susceptible hosts, both in the food matrix and in the intestinal tract after ingestion. [IntJFoodMicrobiol](#), 8 pages. (16.04.2022). The use of bactericides, fungicides and other pesticides in plant agriculture could potentially be associated with the emerging problem of antimicrobial resistance. [Affidia](#), 1 page. (09.03.2022). Original publication: [Agriculture](#). Antibiotic resistance in *Salmonella* and *Campylobacter* is still high, according to a report published by the European Centre for Disease Prevention and Control (ECDC) and the European Food Safety Authority (EFSA). [EFSA](#), 197 pages. (29.03.2022).

★★★ **Future of food safety**: A new publication by the Food and Agriculture Organization of the United Nations (FAO) provides an overview of the **major global drivers and trends**. Areas covered by the document include climate change, changing consumer behaviour and preferences, new food sources and new production systems, technological advances, microbiome, the circular economy and food fraud. [FAO](#), 158 pages. (2022).

★★★ **Circular economy**: A report published by the European Food Safety Authority (EFSA) analyses the **risks to plant, human and animal health and to the environment** associated with **circular economy** models. The risks identified include **bacterial and viral contamination** of food crops from using wastewater for irrigation, the presence of **heavy metals** and **mycotoxins** in insects, and the **allergenic potential of chitosan** in food contact materials. [FoodSafetyNews](#), 2 pages. (26.03.2022). Original publication: [EFSA](#).

★★★ **Parasites**: A research team has analysed **Italian and imported fresh produce** for contamination with **parasites** (*Giardia*, *Cryptosporidium*, *Entamoeba histolytica*). The report's authors concluded that fresh produce on the Italian market could be a **transmission source** for some parasites. [IntJFoodMicrobiol](#), 8 pages. (16.03.2022).

★★★ **Microplastics:** A documentary filmed in Switzerland reports on the **contamination** of various **foodstuffs**, including peeled carrots and apples, with microplastics. [tsr](#), 44 minutes. (22.03.2022). A Dutch study has shown that **minuscule pieces of plastic** from our living environment are **absorbed into human blood**. [EnvironInt](#), 39 pages (24.03.2022). More information: [VU](#).

★★ **Escherichia coli:** Austrian authorities have analysed 48 **ready-to-use biscuit and cake doughs** for contamination with **shiga/verotoxin-producing** (STEC/VTEC) *Escherichia coli*. Two samples contained STEC/VTEC and were therefore deemed **harmful to health**. [AGES](#), 3 pages. (24.01.2022).

★★ **Ciguatera:** France's food safety agency (Anses) has published a **report on ciguatera**, a type of food poisoning caused by eating fish that is contaminated with ciguatoxins. [VigilAnses](#), 4 pages. (03.2022). Following an **outbreak of ciguatera poisoning** in Germany in 2017, an investigation was conducted into imported fish labelled "red snapper" (*Lutjanus malabaricus*). The 45 fish samples from the implicated batch and two meal remnants tested positive for "CTX-type toxicity". Genetic analysis determined that the **fish had been mislabelled**, and was identified as *L. bohar*, a species frequently implicated in ciguatera poisoning. [FrontMarSc](#), 21 pages. (17.03.2022).

★★ **Vibrio parahaemolyticus:** New Zealand has recently recorded a **sharp rise** in *Vibrio parahaemolyticus* infections. Authorities are reminding consumers to ensure mussels are **properly cooked**, with evidence suggesting that a change in water temperature and conditions could make them more susceptible to the bacteria. [FoodSafetyNews](#), 1 page. (12.03.2022).

★★ **Avocado and guacamole:** The US Food and Drug Administration (FDA) has published a report outlining the results of **samples** from processed avocado and guacamole – some of these samples were **contaminated with Listeria or salmonellae**. [FoodPoisonJournal](#), 2 pages. (25.03.2022). Original publication: [FDA](#).

★★ **Drinking water:** The development of **pathogen resistance against disinfectants** used in drinking water treatment could have serious public health repercussions. Water **disinfection systems**, including disinfection as part of potable water reuse, should be regularly monitored to **assess the resistance profile of pathogenic bacteria**. [FrontEnvironSci](#), 12 pages. (14.03.2022). The World Health Organization (WHO) has published the fourth edition of its **Guidelines for Drinking-Water Quality**. [WHO](#), 614 pages. (21.03.2022).

★ **Wild boar:** A new study shows that wild boar are **important reservoirs for foodborne zoonoses**. Eating undercooked **wild boar meat** could pose a risk to public health. [ItalJFoodSafety](#), 5 pages. (2022).

★ **Tea** A test conducted by a French consumer protection magazine on 48 **tea products** has revealed that up to **16 different pesticides** were found in tea and herbal teas, as well as traces of **insects, plastics and rodent hair**. [Affidia](#), 1 page. (21.03.2022). Original publication: [60MioCons](#).

Food fraud

★★★ **Curcumin:** A recently published study has estimated that more than **40% of curcumin supplements** purchased online and in health food shops in France **did not match** the label's **health claims**. [Nutralngredients](#), 3 pages. (10.03.2022). Original publication: [JPharmaceutBiomed](#).

★★★ **Chocolate:** In the United Kingdom, the health authorities have issued a **warning** against buying **counterfeit chocolate bars** that are being sold in shops and online across the country. The warning follows a **sharp increase in reports** of counterfeit chocolate bars on sale in the past year. [FSA](#), 1 page. (28.03.2022).

★★ **Online food sales:** The Irish Food Safety Authority (FSAI) has issued a warning about the **illegal sale online** of **rice-based infant and follow-on formula**. These products are not authorised to be sold in Europe, as they do not meet infants' nutritional requirements. [FoodSafetyNews](#), 2 pages. (17.03.2022). Original publication: [FSAI](#).

Close up

★★★ **Ukraine:** The **impact of the war** in Ukraine on Swiss agriculture was the subject of a recently published article that focused specifically on **fertilisers, animal feeds and crop production**. [FoodAktuell](#), 3 pages. (18.03.2022). A **shortage** of certain **foodstuffs** is one possible consequence of the war in Ukraine. A new article outlines the foods that will see the biggest impact. [Euronews](#), 2 pages. (15.03.2022). Ukraine is **the world's largest exporter of sunflower oil**, responsible for up to 46% of sunflower seed and safflower oil production. The second largest producer is Russia (exporting around 23% of the world's supply). Switching to a more available oil would require companies to produce **new packaging** indicating the presence of the substituted oil. [Time](#), 3 pages. (07.03.2022). More information: [The Conversation](#). In the United Kingdom, the Food Safety Authority (FSA) has **assessed the allergy risk** to British consumers of sunflower oil being **substituted** in foods with refined rapeseed oil without **rapeseed oil** being labelled on the packaging. [FSA](#), 11 pages. (22.03.2022).

★★★ **Plant protection products:** Researchers are looking at a new way of **combating the toughest weeds**. The method uses molecular tools called **antisense oligonucleotides** to infiltrate the cells of plants that need to be controlled, and to target single strands of RNA. The molecular targets would be so specific that the crops would remain intact. [EurekAlert!](#), 3 pages. (08.03.2022).

★★★ **Metagenomics:** According to a recent article, metagenomics is part of the **next revolution** in food safety diagnostics. **Entire microbiomes of foods, ingredients or environmental samples** can be identified by the technology. [JFP](#), abstract. (03.2022).

★★ **Phthalates:** New research has established a **link between phthalates**, commonly known as “everywhere chemicals” and a **higher incidence of some childhood cancers**. [ScienceDaily](#), 2 pages. (16.03.2022). Original publication: [JNCI](#).

★★ **Alcohol:** Researchers analysed data from more than 36,000 adults and have found a **link between alcohol consumption and reduced brain volume** that begins at an average consumption level of less than one unit of alcohol per day – the equivalent of around half a beer – and rises with each additional drink. [ScienceDaily](#), 4 pages. (04.03.2022). Original publication: [NatureCommunications](#).

★★ **Viruses:** An article examines the **potential of certain viruses**, called **phages**, to **prevent or treat bacterial diseases**, for example in the form of a **dietary supplement**. The technology would be particularly useful for combating antibiotic-resistant bacteria. [TodayHeadline](#), 4 pages. (03.2022).

★★ **Artificial sweeteners:** A study of more than 100,000 people has shown that **people who consume high levels of certain sweeteners** have a **slight increase** in risk of developing some types of **cancer**. The study reported that aspartame and acesulfame K, in particular, were associated with an increased risk of cancer – namely breast and obesity-related cancers such as colorectal, stomach and prostate cancers. [TheConversation](#), 2 pages. (24.03.2022). Original publication: [PLOSmedicine](#).

★★ **Ultra-processed foods:** The results of a study have concluded that **greater consumption of ultra-processed foods** could be associated with **higher mortality** in a health-conscious population with many vegetarians. [AmJClinNutr](#), abstract. (24.03.2022).

★ **Titanium dioxide:** The **United Kingdom will not follow the European Union** in **banning titanium dioxide** as a food additive at this time. The UK's Food Standards Agency (FSA) stated that, after reviewing the evidence, **no safety issues had been identified**, meaning that there will be no regulatory change in England and Wales. Food Standards Scotland (FSS) has also come to the same conclusion. [FoodSafetyNews](#), 2 pages. (09.03.2022).

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Seismo Info 03/2022



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

Food trends

★★★ **Food supplements:** A study conducted by the German Federal Institute for Risk Assessment (BfR) indicates that a **third of the German population** take **vitamins** through food supplements at least **once per week**, while one in six Germans take them every day. [BfR](#), 2 pages. (10.02.2022).

★★★ **Organic products:** The Swiss Federal Office for Agriculture (FOAG) and the Research Institute of Organic Agriculture (FiBL) have jointly published a report to analyse the **development of the organic foodstuffs market**, as well as consumers' **buyer motivations** and other aspects. [FOAG](#), 3 pages. (01.03.2022).

★★★ **Controlled-environment agriculture:** An article reviews the **four core claims** regarding controlled-environment agriculture: greater **food safety**, increased **freshness** and an improved **nutritional** and **environmental profile**. [FoodSafetyMagazine](#), 3 pages. (01.02.2022).

★★★ **Exotic fruit:** **Exotic** and **citrus fruits** are **increasing in popularity** in Switzerland: in 2021, imports of exotic fruits increased by around a third compared to 2010. [FoodAktuell](#), 1 page. (04.02.2022). Original publication: [FOAG](#).

★★★ **Packaging:** A project conducted in Switzerland has evaluated the feasibility of **using chicken feather meal** to develop high value added **polymer products**, including packaging. [Innosquare](#), 1 page. (2022). A study conducted by American scientists outlines a key advance in turning **apple waste** into a **packaging material** that could serve as an alternative to plastic. [EurekAlert!](#), 2 pages. (14.02.2022). Original publication: [OregonStateUni](#). A study has revealed **support** for **edible packaging** across multiple regions around the world, including India, China and Brazil. [NewFoodMagazine](#), 2 pages. (17.02.2022).

★★★ **Sugar:** EFSA's scientists have completed their comprehensive **safety assessment of sugars in the diet** and their **potential links to health problems**. The authors conclude that intakes of added and free sugars should be **as low as possible** as part of a nutritionally adequate diet. [EFSA](#), 3 pages. (28.02.2022).

★ **Eating habits:** Nearly nine in ten consumers **snack daily**, but according to new research, what they reach for and when has **evolved significantly during the pandemic**. [FoodNavigator](#), 2 pages. (24.02.2022). A publication analyses the **changes in food-related interests** across 18 countries in 2020, during the **SARS-CoV-2** pandemic, based on Google search volumes. [Nature](#), 14 pages. (28.02.2022).

★ **Food colouring and preservatives:** An article explores **market opportunities** and **recent developments** in the food preservatives industry. One **trend** that has been identified is the increased use of **natural preservatives** derived from plants and animal sources, in place of the synthetic equivalents used up to now. [OpenPR](#), 2 pages. (22.02.2022). An article reviews the possibilities and potential **future evolution** in the **natural food colourants and preservatives** industry. In this context, the article suggests that new, safer and more efficient natural additives with **dual functionality** (colorant and preservative) will be developed. [JAgricFoodChem](#), 17 pages. (21.02.2022).

Unusual outbreaks

★★★ **E. coli:** In Canada, an **outbreak** of **E. coli O103** has been associated with **minced celery**. This is the first time that an outbreak of a strain of *E. coli* other than *E. coli* O157 has been associated with celery. [CDDR](#), 5 pages. (01.2022).

Food safety

★★★ **Vibrio parahaemolyticus:** Researchers in Australia have called for an **increased focus** on infections of *Vibrio parahaemolyticus* in the country due, among other things, to the **potential impact of climate change**. The scientists are requesting a national discussion to consider *Vibrio parahaemolyticus* infection as a **nationally notifiable disease**. [FoodSafetyNews](#), 2 pages. (24.02.2022). A laboratory based study has produced **promising results** regarding the application of **lytic bacteriophages** to control *Vibrio parahaemolyticus*. These results could be scaled up for large-scale application in the **food industry**. [JVerbrauchLebensm](#), 9 pages. (04.01.2022).

★★★ **Salmonellae:** A study has shown that stressors on **dried fruit** can induce the **viable-but-nonculturable state** in salmonellae, thus rendering the pathogen **undetectable** using culture-based methods. The authors recommend using **microscopic and molecular methods** alongside culture-based detection methods. [ApplEnvironMicrob](#), 13 pages. (01.2022).

★★★ **E. coli:** Authorities in France are investigating an **increase** in the number of cases of **Haemolytic uraemic syndrome** (HUS) and cases of **severe E. coli infections** reported since the beginning of February. Thirteen apparently linked cases of SHU have occurred in five regions across France. No information has been released regarding the suspected strains of *E. coli* or the sources of the infection. [FoodSafetyNews](#), 2 pages. (01.03.2022). Original publication: [Santé.gouv.fr](#).

★★ **Microplastics:** An article explores the **potential dangers** of microplastics, how food becomes **contaminated** with them and ways to **reduce exposure**. [MedicalNewsToday](#), 4 pages. (18.02.2022).

★★ **Warnings, recalls and alerts:** The Federal Food Safety and Veterinary Office (FSVO) has published its annual report on its **public warnings, recalls** and the **RASFF** rapid alert system. The FSVO published a total of 31 public warnings and 62 recalls in 2020. The number of **RASFF alerts** issued by Switzerland **increased slightly**, while the number of alerts involving Switzerland **rose considerably** from 201 in 2019 to 241 in 2020. [FSVO](#), 22 pages. (25.01.2022).

★★ **Hepatitis E:** German researchers have studied the **stability of the hepatitis E virus** (VHE) on different **surfaces** (wood, plastic, ceramics and steel). The researchers concluded that VHE shows a **high stability** against drying and subsequent storage on different surfaces. [FoodEnvironVirol](#), 11 pages. (27.01.2022).

★★★ **Plastic bottles:** Researchers have found **several hundred different chemical substances** in tap water **stored in reusable plastic bottles**. Several of these substances are potentially harmful to human health. [Science-Daily](#), 3 pages. (11.02.2022). Original publication: [JHazardMater](#).

★★★ **Lead:** An American company is recalling its **dried plum-based snacks** due to them being found to contain **increased levels of lead**. [FoodPoisonJournal](#), 2 page. (16.02.2022). Original publication: [FDA](#).

Food fraud

★★★ **Olive oil:** A study conducted in Switzerland has uncovered **large-scale food fraud** in the composition of extra virgin **olive oils**. [RTS](#), 2 pages. (03.02.2022).

★★★ **Champagne:** One person has died and a number of people have fallen sick in Germany and the Netherlands after drinking **champagne contaminated with ecstasy**. The champagne was bought via an **online platform** some time before it was served. [FoodSafetyNews](#), 2 pages. (26.02.2022). More information: [BVL](#).

★★★ **Honey:** The UK Government's team of chemists has published two scientific papers highlighting the **increasing complexity** of **honey authentication**. [LGC](#), 1 page. (08.02.2022). Original publications: [Nature](#); [Nature](#).

★★★ **Baby food:** A new study has found that an average of **nine promotional claims** are printed on the packaging of baby food products in the UK. These claims are largely **unregulated** and often imply some form of indirect health benefit. [NewFoodMagazine](#), 2 pages. (02.03.2022). Original publication: [BMJ](#).

★ **Mineral oils:** A non-governmental organisation that focusses on consumer protection has had different **industrial food waste** analysed for mineral oils. **One in every eight** of the 152 products from various European countries analysed in 2021 was found to be contaminated. [foodwatch](#), 2 pages. (23.02.2022).

Close up

★★★ **Cancer:** Researchers have investigated the mechanisms behind **immunosuppression** and **pancreatic tumour growth** in the pancreatic cells of mice and humans. They found that the presence of **Lactobacillus** in the **gut microbiome** inhibits the immune cells that would otherwise stop or slow the growth of pancreatic cancer, **thus promoting tumour growth**. [MedNewsToday](#), 3 pages. (23.02.2022). Original publication: [Immunity](#).

★★★ **Endocrine Disruptors:** Researchers have developed an approach to **more rigorously assess** the impacts of exposure to **mixed endocrine-disrupting chemicals** on the **endocrine system**. The researchers found that the exposure of **expectant mothers** to mixed endocrine-disrupting chemicals may be associated with **language delay** in their children. [EurekAlert!](#), 1 page. (17.02.2022). Original publication: [Science](#).

★★★ **Metals:** Researchers have studied how **prenatal exposure to mixtures of commonly found metals** (antimony, cadmium, cobalt, mercury, molybdenum, nickel and tin) can **adversely affect foetal growth**. The findings suggest that antimony, a lesser studied metal, can have a negative impact on foetal development. [EurekAlert!](#), 2 pages. (10.02.2022). Original publication: [EnvironInt](#).

★★★ **Hepatitis E:** Many common **hand disinfectants** do not inactivate the **hepatitis E virus**, according to a recent study. Of the five hand disinfectants tested, only one, which contained phosphoric acid as well as alcohol, neutralised all virus particles. [FoodSafetyNews](#), 2 pages. (04.02.2022). Original publication: [JHepatol](#).

★★★ **Multiple sclerosis:** It has been found that **milk** may **exacerbate the symptoms** of multiple sclerosis. German researchers have injected **casein** (a constituent protein of cow's milk) into mice, which went on to develop **neurological disorders**. Electron microscopy showed damage to the insulating layer around the nerve fibres, known as the myelin. [EurekAlert!](#), 3 pages. (01.03.2022). More information: [UniBonn](#).

★★ **Alcohol:** A team of researchers has demonstrated that **prenatal exposure to alcohol** in **expectant fathers** can manifest **in the placenta** of their children. This new research suggests that science should be looking more closely at the fathers' prenatal behaviour. [ScienceDaily](#), 2 pages. (01.02.2022). Original publication: [TheFASEBJ](#).

★★ **Shellfish:** Japanese researchers have discovered a **new type of micro-organism** that parasitises and **eliminates plankton** and which causes "**shellfish poisoning**", a condition that induces numbness and dyspnea when eating shellfish. [TellerReport](#), 3 pages. (19.02.2022).

★★ **Epidemiology:** Original publication: [ScAdv](#). A study on the presence of **SARS-CoV-2** in **wastewater** highlights the potential of such systems for detecting microorganisms currently circulating in the population, as a form of **early warning system** for detecting new pathogenic viruses and bacteria. [KantonsLaborBS](#), 3 pages. (07.02.2022).

★ **Water:** An extensive international study has revealed that many rivers have been **polluted by pharmaceutical products**. More than a quarter of the sites included in the study, several of which are in Switzerland, were found to contain pharmaceuticals in concentrations **potentially hazardous** to humans and the environment. [rts](#), 2 pages. (17.02.2022). Original publication: [PNAS](#). Current **water quality** guidelines do not protect freshwater ecosystems against **increasing levels of salt pollution** caused by gritting, agricultural fertilisers and mining, a new international study has found. [NatureWorldNews](#), 2 pages. (21.02.2022).

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Seismo Info 02/2022



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

Food trends

★★★★ **Alternative proteins:** A third of British consumers would be willing to try **lab-grown meat** and a quarter would be willing to try **edible insects**. An even greater number of consumers (six in ten) would be willing to try **plant-based products**, which are already abundant on the market. [FSA](#), 2 pages. (10.01.2022). An Israeli startup has unveiled a whole-cut, fully-structured, boneless **plant-based salmon** prototype that it says rivals the taste, nutrition, and complex texture of conventional salmon. [FoodNavigator](#), 2 pages. (13.01.2022).

★★★★ **Preservation methods:** A study has assessed the effect of **thyme essential oil** encapsulated in a fibre film made from zein (a protein found in maize) in terms of its ability to **extend the shelf life** and **preserve the quality** of **strawberries** during storage. [ChemBioTechnolAgric](#), 11 pages. (13.01.2022).

★★★ **Online food sales platforms:** Efforts to **quantify the level of risk** posed by **foods sold online** are at an early stage, according to the Food Standards Agency (FSA) in the United Kingdom. Issues identified so far include **unregistered businesses** and a lack of standardisation when selling food online. [FoodSafetyNews](#), 3 pages. (13.01.2022). In Germany, authorities have established a federal states-wide “**joint central unit** for the Control of **internet trade in products** (Food, Animal Feed and tobacco products)”, or “G@ZIELT” for short. The report on G@ZIELT’s activities in 2020 is now available. [G@ZIELT](#), 12 pages. (22.12.2021).

★★ **Artificial sweeteners:** An Israeli company has developed a new **plant-based artificial sweetener** known as **Cambya**, which enables producers to reduce the sugar content of breakfast cereals, confectionery and treats like hazelnut and chocolate spread. [BakeryAndSnacks](#), 2 pages. (12.01.2022).

★★ **Upcycling:** An Estonian distillery has found a novel way to use **juniper berries** after they have been used for gin production: adding them to the **cheesemaking process**. [FoodNavigator](#), 1 page. (13.01.2022).

★★ **Vertical farming:** **Switzerland's first vertical farming** project has been launched. The installation will start out by growing **aromatic herbs**, with **vegetables** and **berries** to follow. [FoodAktuell](#), 1 page. (24.01.2022).

★ **Social media:** Australia's doctors have sounded the alarm over a **new food fad** gaining traction on social media. The so-called "**sleepy chicken**" trend involves users **cooking chicken** braised in a **cold and flu remedy**. [Courier-Mail](#), 3 pages. (17.01.2022).

★ **Abyssinian banana:** The enset, or Abyssinian banana (*Ensete ventricosum*), a **close relative of the banana** grown in Ethiopia, could be a **new "superfood"** and a lifesaver in the face of climate change. [BBC](#), 2 pages. (21.01.2022). Original publication: [EnvResLet](#).

★ **Horticulture:** A publication provides a national-scale analysis of the **horticultural production potential of urban green spaces** in the United Kingdom. [EnvironResLett](#), 15 pages. (14.01.2022).

Unusual outbreaks

★★★ **Hydroponics:** In the United States, an investigation has been conducted into an **outbreak of Salmonella Typhimurium** linked to packaged leafy greens produced at an **indoor hydroponic operation**. [FDA](#), 8 pages. (14.01.2022).

★★★ **Salmonella Blockley:** A rare type of *Salmonella*, *Salmonella Blockley*, has infected **16 people** in Norway, with the majority requiring hospitalisation. The source of the infection remains unknown. [FoodSafetyNews](#), 2 pages. (15.01.2022).

Food safety

★★★ **Fish and seafood:** A study has investigated the presence of **polycyclic aromatic hydrocarbons (PAHs)** and halogenated PAHs (XPAHs) in **ready-to-eat seafood snacks**. The results suggest a **potential carcinogenic risk** for lovers of these products. [FoodControl](#), 10 pages. (06 2022).

★★★ **Cannabinoids:** Swiss cantonal chemists have examined **food products containing cannabis**, cannabis extract or with CBD listed as an ingredient. Of the 100 products analysed, 85 were found to be **non-compliant**. [ACCS](#), 2 pages. (01.02.2021). A publication examines the **presence of mycotoxins** in cannabis plants and **cannabis-based food** and **beverage** products. [Affidia](#), 3 pages. (18.01.2022).

★★★ **Milk substitutes:** Between 2019 and 2021, an analysis was conducted in Germany to determine the **sensory and nutritional properties** of a number of **plant-based drinks**. The analysis included samples of drinks made from oats, soy, almonds, cashew nuts, pea protein and coconut. [LAVES](#), 3 pages. (2022).

★★★ **Flour:** Two recently published studies on flour indicate that American consumers need to be **better informed on how to use flour** safely. [FoodSafetyNews](#), 3 pages. (12.01.2022). Original publications: [JFoodProtect](#), [JFoodProtect](#).

★★★ **Parasites:** *Cyclospora*, *Toxoplasma* and *Cryptosporidium* have been **detected in berries** sold in Norway. However, only the DNA was detected – so there is no certainty that the intact, infective stages of the parasites were present, and there is **no information on viability**. [FoodSafetyNews](#), 3 pages. (21.01.2022). Original publication: [FoodMicrobiol](#).

★★★ **Chemical risks:** Analysis conducted in Finland has suggested that the **greatest risks** of serious health effects from contaminants in food are associated with **arsenic** and **certain mycotoxins**. [FoodSafetyNews](#), 2 pages. (02.02.2022).

★★ **Allergens:** Some supermarkets in Italy have started putting up signs to warn customers about the risk of buying **pasta, bread** and **baked goods** prepared with **flour contaminated with mustard seeds**. [Affidia](#), 1 page. (14.01.2022). More information: [MDSalute](#). See also: [SeismoInfo 09 2021](#).

★★ **Contaminants and pregnancy:** Scientists in the United States have demonstrated that the direct transmission of **bisphenol A (BPA)** from a mother to her developing child via the placenta could **negatively impact foetal brain development** in mice. [EurekAlert!](#), 4 pages. (12.01.2022). Original publication: [Epigenomics](#). A new study posits that **exposure to phthalates** may **disrupt an important hormone** needed to sustain a healthy pregnancy. [ScienceDaily](#), 2 pages. (12.01.2022). Original publication: [EnvironInt](#).

★★ **Cyanogenic glycosides:** A Canadian company is **recalling its smoothies** due to the presence of raw elderberries, which contain **cyanogenic glycosides**, a natural toxin. The recalled product had been sold online. [GouvCanada](#), 1 page. (21.01.2022).

★★ **Alkaloids:** The Dutch food agency has warned consumers about two **herbal preparations** being sold online which contain ingredients that could pose a risk to public health. The preparations contain the **Beta-carboline alkaloids harmine, harmaline** and **tetrahydroharmine**. [FoodSafetyNews](#), 3 pages. (25.01.2022).

★★ **Staphylococcus argenteus:** A study conducted in Japan has examined the **prevalence of S. argenteus**, a novel species of the *Staphylococcus aureus* complex, in **fresh food** and **poultry slaughterhouses**. *S. argenteus* was isolated in 21 of 151 chicken samples. [IntJFoodMicrobiol](#), 8 pages. (16.02.2022).

★ **Transport:** In 2021, Danish authorities conducted an official control campaign examining the **transport of food-stuffs** at a retail level. It found that **a quarter** of companies **did not adhere to regulations** when collecting or delivering food. [FoodSafetyNews](#), 2 pages. (23.01.2022).

Food fraud

★★★ **Ham:** Hams presented as **jamón ibérico** with a total market value of one million euros have been seized in Spain. The hams did **not conform to the standards** to be classed as jamón ibérico, and some were even **unfit for consumption**. [TheOlivePress](#), 1 page. (12.01.2022).

★★★ **Spices:** Between 2019 and 2021, the EU ran a campaign of **coordinated checks on certain herbs and spices**. [EC report](#) (12 2021). **Switzerland also took part in the initiative** under the supervision of the Federal Food Safety and Veterinary Office (FSVO). [FSVO](#), 3 pages. (25.01.2022).

★★★ **Vanilla:** The results of a 2019 survey into vanilla pods, extracts and flavouring have been published in France. **Twenty three percent** of the products analysed were found to have **issues relating to authenticity**. [TheRottenApple](#), 1 page. (24.01.2022). Original publication: [DGCCRF](#).

★★ **Saffron:** The saffron trade is increasingly **beset by counterfeiting** and criminal elements, with producers looking for ways to get around the sanctions imposed on Iran. [iNews](#), 3 pages. (22.01.2022).

Close up

★★★ **Global warming:** Rising temperatures as a result of climate breakdown are causing a **growing diversity** of **Vibrio bacteria**, which can harm human health. [TheEcologist](#), 3 pages. (11.01.2022). Original publication: [WaterRes](#). The **parts of the world** suitable for growing **coffee, cashew nuts** and **avocados will change dramatically** as the world heats up, according to a new study. [BBC](#), 3 pages. (27.01.2022). Original publication: [PLOSOne](#).

★★★ **BMAA:** A new neurological illness is spreading in Canada. It has been suggested that the illness may be caused by the neurotoxin BMAA (β -methylamino-L-alanine) and the consumption of lobster. [Focus](#), 3 pages. (07.02.2022).

★★★ **Antibiotic resistance:** A new study provides the **first comprehensive assessment** of the **global burden of antibiotic resistance**, as well as an evaluation of the availability of data. Antibiotic resistance is a **leading cause of death** around the world. [TheLancet](#), 27 pages. (19.01.2022).

★★★ **Microplastics:** It is now thought that sufferers of **inflammatory bowel disease** may have **greater amounts of microplastics** in their stool. [MedicalNewsToday](#), 3 pages. (08.01.2022). Original publication: [En-virSciTech](#).

★★ **Obesity: Chemical compounds** in **plastic household items** such as drinks bottles, yogurt pots, and freezer bags may be **contributing** to the global **obesity epidemic**, a new study suggests. The chemicals may **alter the human metabolism** by promoting the growth of fat cells. [MedNewsToday](#), 4 pages. (26.01.2022). Original publication: [EnvironSciTechnol](#).

★★ **Artificial sweeteners:** Although human tastebuds may or may not be able to tell real sugar from a sugar substitute, there are **cells in the intestines** that can and do **distinguish between the two sweet solutions** and communicate the difference to the brain in a matter of milliseconds. [EurekAlert!](#), 2 pages. (13.01.2022). Original publication: [NatureNeurosciences](#). A study suggests a **link between the consumption of artificial sweeteners** during pregnancy and the **risk of childhood obesity**. [NewFoodMagazine](#). 2 pages. (14.01.2022). Original publication: [FrInNutr](#).

★★ **Clostridium baratii:** *Clostridium baratii* strains are **rare opportunistic pathogens** associated with **botulism** but which are not taxonomically related to the *C. botulinum* bacterium. A comparative genomics-based study has revealed a strain-level diversity in terms of toxin abundance. [Microorganisms](#), 17 pages. (20.01.2022).

★★ **Norovirus:** A Dutch study has found that norovirus was the **main cause of outbreaks and related illnesses** in The Netherlands, based on 12 years of data. [FoodSafetyNews](#), 2 pages. (27.01.2022). Original publication: [Euro-surveillance](#).

★★ **Cannabinoids:** A new study has demonstrated that **cannabidiol (CBD) inhibits SARS-CoV-2 infections** in mice and cells, emphasising the potential of CBD as a means of preventing SARS-CoV-2 infections. **However**, the study's authors **warn against** the use of CBD in non-medicinal products (edibles, inhalers or topical products). [ScienceAdvances](#), 18 pages. (20.01.2022). The results of a study have shown that **CBD and its main metabolites can inhibit cellular proliferation** in Sertoli cells in humans and mice. [FoodChemToxicol](#), 10 pages. (01.2022).

★ **Cancer: Strains of bacteria** that cause **common food-poisoning symptoms** often contain a **toxin** that can **damage DNA** in intestinal cells, potentially triggering **colon cancer**. [NewsWise](#), 3 pages. (12.01.2022). Original publication: [CancerDiscov](#). An article explores the **link between diet and cervical cancer risk**, and explains whether some foods can increase or decrease it. [MedicalNewsToday](#), 2 pages. (16.02.2022). The latest edition of the US government's Report on Carcinogens **adds eight new substances to its list**. The report includes chronic **Helicobacter pylori** infection as a **definite carcinogenic agent**, while **antimony trioxide** (a flame retardant) and **six haloacetic acids** (by-products of water disinfection) are described as **"very probable" carcinogenic agents**. [Corriere](#), 3 pages. (25.01.2022). Original publication: [NTP](#).

★ **Green Deal:** The European Commission has launched its "Farm to fork" and "Biodiversity" strategies, which are both part of the "Green Deal". The **impact of the proposed objectives on farming and the EU's food system** has been evaluated; the results indicate that, were they to be implemented, the objectives would lead to an EU-wide **decrease in production yields for produce, price hikes** on products such as wine, olives and hops, and a **decrease in EU exports** and corresponding **increase in imports** into the Union. [WagUni](#), 3 pages. (19.01.2022).

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The FSVO compiles the most important food safety information every month:

[FSVO website](#)

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

A new publication by the Federal food safety and veterinary office (FSVO) describes the **early detection system used in Switzerland**. [JVerbrauchLebensm](#), 5 pages. (08.01.2022).

Food trends

★★★★ **Meat and dairy substitutes:** Agroscope researchers have created **plant-based alternatives to soft cheese** – using key ingredients from Switzerland and as few additives as possible. [FoodAktuell](#), 1 page. (09.12.2021). Original publication: [AgrarForschung](#). Researchers have developed a new combination of plant-based ingredients tailored for use in **3D-printed** meat alternatives. [ScienceDaily](#), 2 pages. (08.12.2021). Original publication: [ACSFoodSciTechnol](#). Recent research indicates that consumers prefer **poultry** fed on alternative protein sources such as **insects and algae**. [FoodNavigator](#), 2 pages. (14.12.2021). Original publication: [FoodPolicy](#). A new publication examines the evaluation of cell-cultured **meat** and **seafood manufacturing processes** from a food safety **risk assessment** perspective. [ComprRevFoodSciFoodSaf](#), 27 pages. (10.10.2021). Research shows that **ovalbumin produced by *Trichoderma reesei*, a type of fungus**, may have the potential to mitigate part of the environmental burden associated with the production of egg white powder. [EurekAlert!](#), 2 pages. (07.01.2022). Original publication: [NatureFood](#). A UK start-up has developed **seaweed-based, allergen and soya-free alternatives** to fish, soy and oyster sauces. [FoodNavigator](#), 1 page. (06.01.2022).

★★★ **Allulose:** Ingredients companies are aiming to bring allulose, a **rare sugar**, to the European and UK markets. [FoodNavigator](#), 2 pages. (07.12.2021).

★★ **Food Trends in 2022:** An article published at the end of 2021 examines the **challenges** awaiting the food and drink sector in 2022. [NewFoodMagazine](#), 2 pages. (16.12.2021). A recent article focuses on **Nutraceutical products** and ingredients, which are predicted to become a trend in 2022. [NutritionalOutlook](#), 1 page. (15.12.2021).

★★ **Cannabidiol:** The British Food Standards Agency has warned the CBD industry and retailers that they need to **market products responsibly** and has offered support to local authorities if they need to increase their **enforcement efforts** regarding CBD-based **food products**. [FSA](#), 1 page. (10.12.2021).

★★ **Coffee:** Finnish researchers have developed a **fully lab-grown type of coffee**. [C&EN](#), 1 page. (05.12.2021).

★★ **Packaging:** An American company has applied for a patent for a type of **mould-inhibiting packaging** designed for **baked goods**. [FoodNavigator](#), 2 pages. (21.12.2021). Scientists have developed a test that will make it possible to **detect bacterial contamination** in dairy products by reading a signal from a **test printed inside every container**. [NanoWerk](#), 2 pages. (07.12.2021). Original publication: [ACS](#). Scientists have developed a 'smart', sustainable and biodegradable **food packaging material** that kills microbes that are harmful to humans. It could also **extend the shelf-life** of fresh fruit by two to three days. [EurekAlert!](#), 3 pages. (27.12.2021). Original publication: [ACSAppIMaterInterfaces](#). In Switzerland, a supermarket chain has partnered with a research institute to develop a **cellulose-based protective packaging material** for fruit and vegetables. [PressePortal](#), 2 pages. (04.01.2022). Researchers have identified **edible silk fibroin-based coatings** as a potential solution to growing concerns over food waste. [ApplPhysRev](#), 51 pages. (04.01.2022).

★ **Meat:** Meat **consumption** is **growing** globally. But a handful of countries, including Switzerland, are bucking this trend, and their appetite for meat is in decline. [AnthropoceneMagazine](#), 3 pages. (10.12.2021). Original publication: [Animals](#). A recently published study has shown that **increases in the global trade** of red and processed **meat** have contributed to the **sharp rise in** the number of food-related **non-communicable diseases (NCD)**. [BMJGlobalHealth](#), 10 pages. (15.11.2021).

Unusual outbreaks

★★★ ***E. coli*:** *E. coli* has been found to have caused an **outbreak of food poisoning** that affected almost 3,000 students and teachers in **Japan** in 2020. The resulting investigation revealed that the outbreak was **caused by red seaweed** contaminated with *E. coli* O7:H4, which was used in a salad. [EpidemiolInfect](#), 3 pages. (02.11.2021). In **Denmark**, an **outbreak** of *E. coli* that has affected more than 60 people in less than a month has been linked to **spring onions** imported from Egypt. [FoodSafetyNews](#), 2 pages. (29.12.2021).

★★★ ***Salmonella*:** Canadian officials have identified **frozen sweetcorn** as the source of an outbreak of *Salmonella* infections. [FoodSafetyNews](#), 2 pages (23.12.2021).

★★ **Packaged salads:** The US CDC (Centers for Disease Control and Prevention) is currently investigating two separate *Listeria* outbreaks, both of which are linked to **packaged salads**. [CDC](#), 1 page. (23.12.2021). An investigation into a multistate outbreak of *E. coli* O157:H7 infections has been opened in the **United States**. The outbreak is suspected to be linked to **packaged salads**. [OutbreakNewsToday](#), 1 page. (31.12.2021).

Food safety

★★★ **Foodborne pathogens:** The UK's Food Standards Agency (FSA) has **divided foodborne pathogens** into categories based on **their detrimental effect on British society**. [LeBlogaA](#), 2 pages. (09.12.2021). Original publication: [FSA](#).

★★★ **Sugar:** Food safety officials in New Zealand are investigating a **series of recalls** of sugar **contaminated with lead**, which has been linked to conditions during transportation. The manufacturer of the sugar is thought to have provided incorrect information to supermarkets which resulted in them releasing the sugar to consumers by mistake. [FoodSafetyNews](#), 3 pages. (13.12.2021). More information: [MPI.NZ](#), [UnderOneCeiling](#).

★★★ **Bacillus thuringiensis:** At the Federal Food Safety and Veterinary Office's behest, Swiss researchers have analysed whole-genome sequences of 33 *B. thuringiensis* isolates from **biopesticides, food, and human faecal samples** linked to outbreaks. All food and outbreak-associated isolates **genomically** matched with one of six biopesticide strains, suggesting **biopesticide products as their source**. [FrontMicrobiol](#), 1 page (abstract). (13.12.2021).

★★★ **Packaging:** Research conducted in the United States has revealed that the **wrappers** of foods such as burgers, pizzas and Tex-Mex can **contain "forever chemicals"**. The preliminary findings suggest that **ortho-phthalates remain ubiquitous**, and that **replacement plasticizers may be abundant** in fast food meals. [CIEH](#), 2 pages. (12.2021).

★★ **Escherichia albertii:** A recent study detected *Escherichia albertii* in **1.9% of samples of Pacific Oysters** and Japanese rock oysters. In total, **64 strains** of *E. albertii* were isolated across eight samples. The majority of the *E. albertii* isolates tested **positive for eae**, a type of **virulence factor**, indicating the potential to infect humans. [JFoodProtect](#), 1 page (abstract). (01.2022).

★★ **Salmon:** Researchers have assessed the dangers associated with the ingesting of **Persistent Organic Pollutants** (POPs) through the consumption of Pacific salmon. The concentrations of POP were found to pose a **minimal risk to human health**, but the researchers emphasise the **necessity of continuing to monitor** the levels of these pollutants in commercially valuable fish and to assess their safe intake. [FoodControl](#), 6 pages. (19.11.2021).

★★ **Honey:** A study has examined the presence of **antibiotic resistance genes** (ARG) in domestic honey produced in China. The results suggest that bee honey may be a **significant source** of ARGs, which might pose a threat to public health. [FoodbornePathogDis](#), 8 pages. (12.2021).

Food fraud

★★★ **False promises:** A company has marketed a **spray** which it claims **improves the taste** of fruit and vegetables while also **removing agrochemicals**, wax and dirt from them. A report by a Swiss-German radio station has dismissed these claims as false advertising. [SRF](#), audio. (07.12.2021).

★★★ **Turmeric:** A study has examined "all natural" claims **made on the labels of commercial dietary supplements** containing **turmeric-based ingredients**. Only four of the 14 samples analysed confirmed the validity of the claims made on the label. [FoodChem](#), 9 pages. (15.02.2022).

★★ **Olive oil:** Eleven out of the 30 extra virgin olive oils evaluated in Italy had **faults relating to organoleptic qualities** (aroma and taste) that prevented them from being classed as 'extra virgin' olive oils. [AffidiaJournal](#), 1 page. (02.12.2021). Original publication: [AltroConsumo](#). Brazilian authorities have suspended the sale of 24 brands of **olive oil considered unfit for consumption**; the products in question were found to be **fraudulent, illicit or contraband**. [NewsTVS24](#), 1 page. (18.12.2021).

★★ **Alcohol:** Shoppers in Scotland have been warned of the **'serious health risks'** associated with **drinking counterfeit alcohol** during the festive season. [FoodNavigator](#), 2 pages. (17.12.2021). Original publication: [FSS](#).

★★ **Imported products:** Authorities in the United Kingdom have issued a **warning** following a **rise** in the number of **non-compliant** food and drink products being **imported** from countries including the United States. [FoodSafetyNews](#), 2 pages. (20.12.2021).

★★ **Halal:** The Halal food industry is facing the issue of **fraudulent products** and certification disputes. Following a series of scandals, industry experts are calling for **more regulation** and harmonised standardisation. [SalaamGateway](#), 4 pages. (01.01.2022).

★★ **Packaging:** The **demand for post-consumer recycled plastic resins is far exceeding the supply**; this is creating an **opportunity for fraud**, with virgin resins falsely described as recycled or recycled content being misreported. [TheRottenApple](#), 1 page. (20.12.2021). Original publication: [FoodSafetyMagazine](#).

★ **Greenwashing: Vertical farming** could help address the global challenge to produce more food with **less environmental impact**. But a state-of-the-industry study has revealed that **overblown environmental claims** could undermine the credibility of the sector. [FoodNavigator](#), 3 pages. (07.12.2021).

Close up

★★★ **Microplastics:** Microplastics cause **damage to human cells** in the laboratory at the levels known to be eaten by people via their food, a study has found. The harm included **cell death** and **allergic reactions**. [TheGuardian](#), 2 pages. (08.12.2021). Original publication: [JHarardMater](#). **One gram of salt** can contain up to **38 microparticles of plastic**, according to a study conducted in Switzerland. [Saldo](#), 1 page. (08.12.2021).

★★★ **Zoonoses:** The European Union's **2020 Zoonoses Report** has been published. The report presents the results of zoonoses monitoring activities carried out in 27 EU Member States and nine non-member states in 2020. [EFSA](#), 324 pages. (13.12.2021). The **Trichinella notification** rate in Europe almost **doubled** in 2019 compared to 2018. [FoodSafetyNews](#), 1 page. (28.12.2021). Original publication: [ECDC](#). It is thought that certain **bird** species such as starlings are more likely to **spread pathogenic bacteria** to crops like lettuce, spinach and broccoli. However, insect-eating species are less likely to carry pathogens. [FoodSafetyNews](#), 2 pages. (10.01.2022). Original publication: [EcolAppl](#).

★★★ **Bisphenol A:** The European Food Safety Authority (EFSA) has **re-evaluated the risks of bisphenol A** (BPA) in food and suggests a **much lower tolerable daily intake** in comparison to its earlier evaluation in 2015. [AffidiaJournal](#), 1 page. (16.12.2021). More information: [EFSA](#).

★★★ **Artificial sweeteners:** The results of a Spanish study appear to corroborate the **link between artificial sweeteners** and impaired metabolism and oxidative stress, which can **exacerbate cognitive decline** in humans. [FoodNavigator](#), 3 pages. (15.12.2021). Original publication: [MolNutrFoodRes](#).

★★★ **Hepatitis E:** Between January and May 2021, the Federal Office of Public Health (FOPH) recorded an unusual **increase in cases of hepatitis E**, which led to further investigation. [BAGBulletin](#), 3 pages. (24.01.2022). A study investigates the **potential for cross-contamination** with the hepatitis E virus (VHE) in German **abattoirs**. The study has identified that **the joint storage of livers** in Euro meat containers has a **significant impact** on the presence of HEV RNA on the surface of porcine liver. [JVerbrauchLebensm](#), 7 pages. (18.11.2021). Swiss researchers have studied the **genetic diversity of hepatitis E virus** type 3 "from table to stable" in Switzerland. [Animals](#), 18 pages. (18.11.2021).

★★ **Mycotoxins:** The post-harvest **mycotoxin levels in maize grains** has been analysed as part of monitoring in Switzerland. Although **deoxynivalenol** was detected in almost all of the samples, the overall **level of deoxynivalenol contamination** in the 2021 harvest was **lower than average**. The level of **fumonisin** contamination was likewise **low** (although higher than in 2020), while the level of **zearalenon** in the 2021 harvest was no higher than **average**. [LID](#), 1 page. (21.12.2021). More information: [SwissGranum](#).

★★ **SARS-CoV-2:** A recent publication analyses the **impact of the COVID-19 pandemic on food production and animal health**. [TrendsFoodSciTech](#), 10 pages. (06.12.2021). China has tightened import rules after finding the virus that causes COVID-19 on **fruit packaging** from Vietnam and Thailand. [FoodSafetyNews](#), 2 pages. (08.01.2022).

★★ **Climate change:** The **supply of farmed seafood** such as **salmon** and **mussels** is projected to **fall by 16%** globally by 2090 if no action is taken to mitigate climate change. [EurekAlert!](#), 3 pages. (13.12.2021). Original publication: [GlobChangeBiol](#). **Wholesale coffee prices** have **increased** due to a confluence of factors that have taken a toll on supplies, including **bad weather** in the main growing regions and the pandemic-related **supply chain challenges** that have fuelled overall inflation. [SmartBrief](#), 3 pages. (01.12.2021). A publication examines the **impact of climate change** on the **microbiological quality of raw milk**. The findings indicate that raw milk might face **difficulties in meeting hygiene criteria** under climate change. [FoodResInt](#), 10 pages. (11.2021).

★ **Water:** A publication examines the **environmental impact** of using **road deicing salt**, particularly the **contamination of drinking water supplies** and the mobilisation of harmful chemicals, such as **radon, mercury** and **lead**. [ScienceDaily](#), 3 pages. (09.12.2021). Original publication: [FrontEcolEnviron](#).

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