



Seismo Info 11/2024



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

[FSVO website](#)

[Early detection for food safety: Visualization](#)

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

Microbiology

★★★ **First Hepatitis E Virus detection in raw milk in Italy:** In a study of 220 raw ovine (ruminants) milk samples from three Italian provinces, 2.3% tested positive for **Hepatitis E Virus (HEV)** RNA, marking the first detection of HEV RNA in **sheep milk** in Italy. [Foods](#), 5 pages. (11.10.2024).

★★★ **First H5N1 bird flu detection in swine:** The USDA confirmed the first case of **H5N1** bird flu in a **pig** on an Oregon backyard farm, which shared facilities with poultry. Pigs are concerning carriers as they can harbor both avian and human flu viruses, potentially allowing for gene exchange that could create a new virus capable of infecting humans more easily. [swi](#), 2 pages. (01.11.2024). Original Publication: [USDA](#).

★★★ **Opisthorchiasis outbreak in Italy:** This study examines a 2022 outbreak of **Opisthorchis felineus** infections in central Italy, transmitted by **raw Cyprinidae fish**. **Forty-seven cases** were identified, mostly traced back to a single restaurant near Lake Trasimeno, with the majority presenting symptoms like fever. Due to praziquantel shortages, some patients received albendazole, which often failed to clear the infection. [FSN](#), 2 pages. (06.11.2024). Original Publication: [J. Infect.](#)

★ **Salmonella outbreak tied to red onions in Canada:** In July 2020, an investigation began into a *Salmonella* Newport outbreak in Canada, linked to **red onions** from California. Whole-genome sequencing identified **515** cases across seven provinces, with a majority reporting onion consumption prior to illness. Collaborative traceback efforts led to food recall warnings, marking this as Canada's largest Salmonella outbreak in over 20 years. [FSN](#), 3 pages. (14.10.2024). Original Publication: [Epidemiol. Infect.](#)

★ **Imported eggs linked to Swedish Salmonella infections:** An outbreak of *Salmonella* with a probable connection to imported eggs is being investigated in **Sweden**. Since the beginning of the year, several reports of people infected with *Salmonella* Enteritidis have been identified where epidemiological investigations have pointed to the consumption of eggs. On some occasions, officials suspect they were **imported from Ukraine**. [FSN](#), 2 pages. (15.10.2024). Background information: [FRAE](#)

★ **Antibiotic-resistant *Aeromonas* spp. isolated from mussel and oyster:** This study investigates the **prevalence of antibiotic-resistant *Aeromonas* spp.** in live **mussels** and **oysters** available for retail in Canada, revealing that 52% of the 180 samples tested positive for third-generation **cephalosporin (3GC)**-resistant bacteria. A subset of ten *Aeromonas* strains underwent whole genome sequencing, uncovering **multiple antibiotic resistance** and **virulence** genes, as well as mobile genetic elements indicative of potential horizontal gene transfer. [JFoodProt](#), 32 pages. (09.10.2024).

★ **Antibiotic resistance genes in edible insects vs. livestock:** A recent study highlights the growing threat of **antibiotic-resistant genes (ARGs)** in the global food system, particularly concerning emerging food sources like edible insects. The research compares ARG prevalence in **edible insects** and **livestock**, suggesting that **livestock harbours more ARGs** due to differences in gut microbiota and antibiotic exposure. [Foods](#), 10 pages. (14.10.2024).

★ **Antifungal resistance:** Fungi cause superficial and life-threatening infections, with over 6.5 million cases and 3.8 million deaths yearly. **Many fungi are resistant** to the four available drug classes, and resistance can evolve rapidly. A UN meeting on antimicrobial resistance highlighted the **growing global issue of fungal pathogens**. Agricultural fungicides, like azoles, may contribute to drug resistance in human infections. [Conversation](#), 4 pages. (18.10.2024). Additional Information: [WHO - fungal pathogens priority list](#).

★ **Microplastics in wastewater treatment plants harbor pathogens:** Microplastics in wastewater can harbor pathogenic bacteria and viruses, including *Listeria monocytogenes*, *Escherichia coli*, **Norovirus**, *Klebsiella pneumoniae*, and *Acinetobacter* spp., protected by biofilms called **plastispheres**. These plastispheres shield pathogens from treatment, allowing them to **persist** in treated water and sludge. The study underscores the need for advanced wastewater treatment and plastic waste management to prevent microplastic-associated pathogens from entering the food chain and posing health risks. [EurekAlert](#), 2 pages. (07.11.2024). Original Publication: [PlosOne](#).

★ **Worldwide systematic review: prevalence of *Blastocystis* sp. in water sources:** Contaminated water sources can lead to outbreaks of **parasitic infections** like *Blastocystis* sp., significantly straining healthcare systems and impacting community health. A systematic **review** analyzed 24 studies with 2,451 water samples from 15 countries, finding an overall prevalence of 18.8% for *Blastocystis* sp., with the highest infection rate in wastewater (35.5%) and notable levels in **tap water (19.1%)**. [FoodbPathDis](#), 10 pages. (10.10.2024).

Chemistry

★★ **Brominated flame retardants (BFR) in household items:** A study revealed that black plastic often contains harmful **brominated flame retardants (BFR)** and **organophosphate flame retardants (OPFRs)**, particularly in household items like kitchen utensils. Testing over 200 products found 85% were contaminated, with high levels detected in items such as a spatula, tray, and necklace. This contamination is likely due to the recycling of electronic waste. The banned substance **Decabromodiphenyl ether (DecaBDE)** was found in concentrations exceeding EU limits. [Chemosphere](#), 10 pages. (15.10.2024).

★★ **Harmful substances detected in coffee pods:** ÖKO-TEST conducted an analysis of coffee pods for potentially harmful substances. The results: 14 out of 21 samples (67%) were rated as “poor” or “inadequate.” Concerns included the detection of acrylamide, pesticide residues, as well as furan and methylfuran. [Utopia.de](#), 3 pages. (29.10.2024). Original Publication: [Ökotest](#).

★★ **EPA approves first antimicrobial treatment for preharvest agricultural water:** The U.S. EPA has approved SANIDATE 12.0 as the **first antimicrobial treatment for foodborne pathogens in preharvest agricultural water**. The product uses two active chemicals—**Hydrogen Peroxide** (18.5%) and **Peroxyacetic Acid** (12.0%)—to reduce pathogens like *E. coli* and *Salmonella* in water used on crops. [FoodSafetyMag](#), 2 pages. (05.11.2024). Original Publication: [EPA](#).

★★ **PFAS in fish miles away from large contamination source:** A new study from Harvard's John A. Paulson School of Engineering reveals that **fish** can accumulate high levels of **per- and polyfluoroalkyl substances (PFAS)** even far from contamination sources. Researchers examined **fish** and **shellfish** from Cape Cod, Massachusetts, near a military base that historically used PFAS-containing **firefighting foams**, finding concerning PFAS concentrations in fish tissues up to 8 km away. [EurekAlert](#), 2 pages. (16.10.2024). Original Publication: [Environ. Sci. Technol.](#)

★ **Risk of PFAS accumulation:** A study investigating **15 per- and polyfluoroalkyl substances (PFAS)** in a male volunteer, including both long-chain and short-chain compounds, found that **long-chain PFAS**, like PFOA and PFOS, have **half-lives of several years**, leading to **bioaccumulation** in humans. **Short-chain PFAS**, like PFPeA and PFHxA, were eliminated more quickly due to **lower retention** in the body. Elimination pathways involve renal and gastrointestinal processes, influenced by each compound's specific binding affinity to transporters. These findings are crucial for assessing PFAS risk, particularly in relation to contaminated food and water sources. [BfR](#), 4 pages. (07.11.2024). Original Publication: [Environ Int.](#)

★ **Agricultural plastic mulch threatens soil and food safety:** A study on California's Central Coast reveals that **plastic mulch** use in agriculture leads to **soil contamination**, affecting moisture, microbial activity, and nutrient availability. Even at relatively low levels of **macroplastic accumulation**, declines in soil quality were observed, raising **concerns for food safety** due to potential **uptake of microplastics by crops**. The findings suggest that current "best practice" plastic management is insufficient, emphasizing the need for improved practices to protect both soil health and food security from ongoing plastic pollution. [EurekAlert](#), 2 pages. (23.10.2024). Original Publication: [PNAS](#).

★ **Abrasion of plastic kitchen utensils:** Plastic kitchen utensils such as **salt mills** or **salad spinners** are used in the preparation of food. **Abrasion** can get into food. In a test of 14 salt mills and 14 salad spinners, four salt mills and one salad spinner were found to be problematic. Kitchen utensils should be regularly checked for wear and replaced if necessary to avoid plastic getting into food. [Analytik News](#), 2 pages. (02.10.2024).

★ **Mycotoxins of the beauvericin and enniatin groups in infant foods:** This study investigated the presence of mycotoxins **beauvericin** and **enniatis** in various **infant foods**, including cereal-based creams, biscuits, and pasta, using liquid chromatography-mass spectrometry. The results indicated that beauvericin was most frequently detected in pasta, while enniatin B was predominant in biscuits. The estimated daily intake of these **mycotoxins** was notably higher in infants aged 1-3 years compared to older children, emphasizing the potential risk due to their higher food intake relative to body weight. [FoodContr](#), 10 pages. (02.2025).

Nutrition

★ **Vitamin A, C and iron intake decreases in women:** A study found that **vitamin A**, **vitamin C**, and **iron** intake in **women** of reproductive age, including **pregnant** women, has decreased over the past 20 years. This decline may impact the health of both mothers and babies. [EurekAlert](#), 2 pages. (11.10.2024). Original Publication: [JAMA Netw Open](#).

★ **Artificially sweetened beverages and progression of coronary calcification:** This study examines the link between the cumulative intake of artificially sweetened beverages (ASBs) and sugar-sweetened beverages (SSBs) during young adulthood and the **progression of coronary artery calcium (CAC)** by midlife, utilizing data from the CARDIA study. Analyzing 2,466 participants over a follow-up period. The findings suggest that prolonged consumption of beverages, particularly ASBs, may **elevate the risk of CAC progression** in young adults. [Nutr. Metab. Cardio-vasc. Dis.](#), 24 pages. (10.10.2024).

Fraud / Deception

★★★ **Operation Opson XIII:** Europol, OLAF, DG SANTE, DG AGRI, and 29 countries across Europe, as well as food and beverage producers from the private sector, joined forces in the 2024 edition of **operation OPSON**. This yearly operation, now in its thirteenth run, targets **counterfeit** as well as substandard **food and beverages**. Law enforcement, customs, and food regulatory agencies seized around **22 000 tonnes of food** and around **850 000 litres** of (mostly alcoholic) beverages. In total, goods valued at over **EUR 91 million** were taken off the market. [Europol](#), 2 pages. (23.10.2024).

★★ **Fake wine in Italy:** Several European authorities have uncovered a group involved in **counterfeiting French wine in Italy**. The investigation was led by the French Gendarmerie (Gendarmerie Nationale). It involved the Italian Carabinieri Corps (NAS Carabinieri) and Swiss Federal Police with support from Europol and Eurojust. Suspected criminals **faked French red wine**, charging up to €15,000 (\$16,300) per bottle. The counterfeit wine was forged in Italy. [FSN](#), 1 page. (17.10.2024). Additional Information: [SRF](#).

★ **Wild blueberries often replaced by cheaper varieties:** The **2024 OPSON XIII operation** found that **50%** of tested products labeled as "**wild blueberries**" in Germany contained other blueberry species. Among **canned samples**, **76%** were misrepresented, and only a fraction contained genuine wild blueberries (*Vaccinium myrtillus*). Conducted from December 2023 to May 2024, this operation highlights consumer protection concerns, as wild blueberries are typically more expensive than cultivated varieties. [BVL](#), 1 page. (23.10.2024). Additional Information: [Extended article: CVUA Stuttgart](#).

★ **Fake extra virgin olive oil: 71 tons seized with chlorophyll:** A major operation exposed a food crime network producing **fake extra virgin olive oil** in Cerignola, Foggia. Authorities seized **71 tons** of adulterated oil, charged seven people, and uncovered the deceptive use of **chlorophyll**, raising serious concerns about food safety. [RG](#), 3 pages. (05.11.2024). Additional Information: [Food Unfolded: Fake olive oil](#).

★ **Salmon frequently mislabeled in grocery stores and sushi restaurants:** A study in Seattle revealed that **18%** of **salmon** samples were mislabeled, with **sushi restaurants** showing higher mislabeling rates than grocery stores. The most common error was **mislabeled farmed salmon as wild**, particularly in restaurants, where **32.3% of samples were mislabeled**. [EurekAlert](#), 2 pages. (07.11.2024). Original Publication: [PlosOne](#).

★ **Illegal import of hazardous american food products in France:** An investigation reveals the **illegal import** and sale of American food products in France that contain harmful additives. These products, including Peanut Butter M&M's, Fanta Strawberry, Heinz Pickle Sauce, and Lucky Charms cereal, are banned in the European Union due to dangerous substances like **titanium dioxide and aluminum sulfate**. Despite the restrictions, over 72 tons of these products have been intercepted by customs, indicating a larger issue with the illegal food trade. [Marianne](#), 2 pages. (22.10.2024). Additional Information: [Radio France article](#).

Close-up

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

- **Publication of the visualization «[Early detection for food safety](#)»:** The Federal Office for Food Safety and Veterinary Affairs (FSVO) identifies emerging health risks for the Swiss population to ensure long-term food safety. To this end, the office filters and records current food safety information in the form of notifications. The following visualization presents these notifications, including by hazard (e.g., Listeria) and food groups (e.g., fruits).
- **Publication in the journal Food Risk Assess Europe (FRAE) of the report “Exploratory survey on energy costs and their potential impact on food safety”** (Abstract in English, German and French. Report in German) available at <https://doi.org/10.2903/fr.efsa.2024.FR-0048>
- **Publication in the journal Food Risk Assess Europe (FRAE) of the report “Impact of mercury released from permafrost on food safety in Switzerland”** (Abstract in English, German and French. Report in English) available at <https://doi.org/10.2903/fr.efsa.2024.FR-0048>

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