EMERGING RISK IDENTIFICATION SYSTEM
Enhancing Food Safety in New Zealand

Signals

Issue 9
October 2025

A quarterly brief on emerging food safety issues (Jul-Sep 2025)

Project funded through the New Zealand FOOD SAFETY SCIENCE & RESEARCH CENTRE

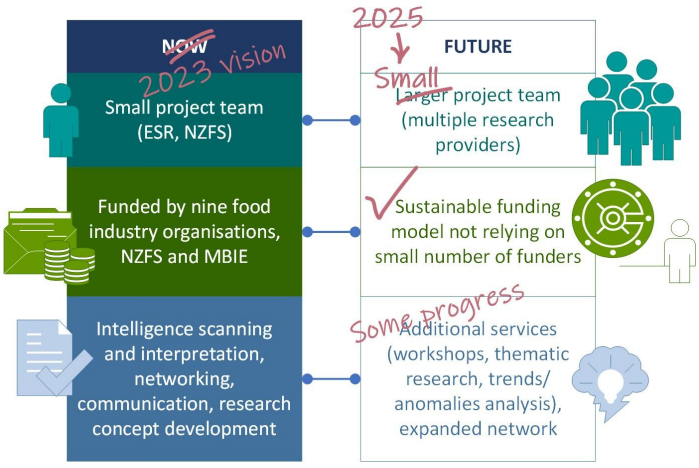
and delivered by PHF Science

Sustainable funding for emerging risk activities

The ERIS project has been providing insights and scientific support since 2021 thanks to the commitment and financial support from a small group of New Zealand food organisations. In July 2025, the ERIS project transitioned into a service sustainably funded by all NZFSSRC industry members.

Systems to anticipate emerging issues need time for upskilling and calibration before they produce outputs that meet stakeholder needs. It is expected that these systems will continue to evolve. Thanks to sustained commitment of the NZFSSRC and its funders, the ERIS service is closer to the 2023 vision.

The core purpose remains the same: To support the food industry to prioritise their current and future food safety research. The small ERIS team now includes scientists from three organisations. Externally, the service remains familiar but may change as we adapt to the needs of Aotearoa's food industry.



Publication information

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News from the network

The Food and Agriculture Organization of the United Nations (FAO) released the latest in a series of reports considering the impact of chemicals and food hazards on the human gut microbiome. The report echoed earlier FAO documents by stressing the need for standardised protocols before gut microbiome impacts can be incorporated into risk assessment.

The European Food Safety Authority published minutes and presentations from their emerging risk network meetings held during May and June. Topics included the re-emergence of known issues such as bongkrekic acid poisoning and tick-borne encephalitis, new technologies like carbon dots, and issues stemming from wider agrifood system changes such as antiparasitic drug resistance or the growing market for neuroactive functional foods.

From July, the USA's Foodborne Diseases Active Surveillance Network is only monitoring salmonellosis and STEC infections. This affects their ability to monitor trends for the other foodborne diseases.

Here in New Zealand, a study of mammalian wildlife viruses found human rotavirus A in a hedgehog, serving as a reminder that these garden-dwelling animals can carry human pathogens.

Links: FAO 2025 additives/microbiome report, EFSA EREN and StaDG-ER papers, NBC News on FoodNet, NZ wildlife viriome study preprint

Summary of activities

Of interest since Issue 8 were:

- 11 emerging issues concerning food or the food industry.
- Signals prompting updates to 43 identified emerging risks.
- 102 signals that did not meet the requirement of being a foodborne emerging risk to human health.

NZFSSRC members will decide if they want to undertake actions on these signals or identified emerging issues.

Featured emerging risks and issues

The potential for global spread of *Shewanella* spp. *Shewanella* are natural bacterial inhabitants of aquatic environments and occasional causes of food spoilage or disease outbreaks in aquaculture operations. Some *Shewanella* species have caused human infections. Foodborne and environmental transmission are both likely but there is limited evidence to show how people become infected. Warming waters as a result of climate change may increase the abundance of *Shewanella* in the environment. Aquaculture expansion may increase opportunities for foodborne exposure.

Tralopyril antifouling uptake in fish. The antifouling agent tralopyril can be used to treat aquaculture structures and nets. Laboratory studies have shown that tralopyril can be present in the edible flesh of salmon confined by tralopyril-treated nets and can also be taken up from the water by shellfish. A study is underway to determine if tralopyril accumulates in fish under real-world aquafarm conditions.

Potential adverse health effects from chronic exposure to bio-based food contact materials. The phasing out of single-use plastics has increased in popularity in many countries. Starch- or plant-based plastics have compelling benefits compared to petroleum-based plastics as they biodegrade faster, are derived from renewable resources (e.g., corn, potatoes), and satisfy consumer demand for eco-friendly options. When assessing the safety of bioplastics, researchers have recently stressed that chronic exposure scenarios need to be considered. An example is the potential for starch-based micro-particles, shed from starch-based plastics, to cause glucose-related metabolic effects.

New information on selected identified issues

- ***Anisakis* spp. in fish**: *Anisakis* larvae may trigger the immune response seen in people with tick-bite induced red meat allergy (α-Gal syndrome). This sensitivity may persist after a parasitic infection has been cleared, making the individual sensitive to an allergic response upon red meat consumption. Rodero *et al.* (2025)
- **Foodborne transmission of microsporidia**: An FAO expert meeting considered microsporidia to be emerging human pathogens with foodborne transmission. FAO executive summary
- ***Citrobacter* spp. in foods**: A report describes two foodborne outbreaks that occurred in China during 2022 and 2023, and the role of *C. portucalensis* and *C. freundii* in these outbreaks. Jiang *et al.* (2025)

Some other observations

- A media article highlights that animal welfare laws for aquaculture animals may be on the horizon. Good aquatic animal health and wellbeing will benefit food safety.
- The USA's alert about cesium-137 in shrimp and the resulting precautionary recall has shown how regional activities that release radioactive materials in the environment can impact nearby food production areas and global trading.
- Shiga toxin-producing *E. coli* O80:H2 has emerged as a cause of serious illness in Europe and researchers suspect that humans are the primary reservoir. This reinforces the importance of food handlers having good hand hygiene practices.
- An environmental survey has shown that plastics used in covered cropping systems are an important source of microplastics in the surrounding environment.
- Studies have confirmed the occurrence of known food fraud issues: The adulteration or non-compliance of cinnamon, or the adulteration of beverages with pharmaceutical drugs to enhance consumer perceptions of health claims.
- Researchers are investigating the fate of pyrrolizidine alkaloids in meat and milk if the animals consume plants containing these natural toxins.

Links to:

Aquaculture animal welfare article

USFDA advisory on Ce-137 and shrimp

Paper on STEC O80:H2 by Auvray *et al*.

Microplastic paper by Nuñez–Rubio *et al*.

Reports on cinnamon fraud by Ghidotti *et al*., and on food fraud by Kavruk *et al*.

Articles on PAs in milk products and meat