



**EMERGING
RISK
IDENTIFICATION
SYSTEM**
Enhancing Food Safety in New Zealand

Signals

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Unintended consequences and risk trading

Modern food systems are complex, changeable, and interconnected with the environment and communities. This means that well-intended changes can cause unintended consequences. These can emerge as food safety risks.

Changes in food contact materials or food ingredients can generate unintended consequences. [Trials](#) show that gluten can migrate from cereal-based plates and cups into food and drinks. Paper straws are now widespread but there are concerns about [PFAS](#) in these items. The novel use of [tara flour](#) in 2022 caused a serious outbreak. More recently, illnesses in the [USA](#) and [Australia](#) were linked to confectionary containing psychoactive substances. Concern over dietary exposure to [acrylamide](#) is re-emerging due to increased consumption of plant-based proteins.

Sometimes new risks are anticipated, and this might result in risk trading. This is where the mitigation of one risk allows another to emerge. For example, actions to reduce the use of herbicides in horticulture can involve the use of synthetic films or [mulches](#), which release micro- and nanoplastics into the environment. Advances in nanotechnology improve food production, food quality and food safety, but are leading to concerns about 'nanowaste'. It is well known that the use of disposable gloves at food service helps keep food safe, but poor quality [gloves](#) or their poor use can contaminate food.

Emerging risk identification involves looking for the negative consequences of food system changes to avoid, mitigate or accept any risks.

[S. Parrish writes about the law of unintended consequences](#)

News from the network

Members of the European Food Safety Authority's network considered a range of emerging risks during May and June. The role of food in total exposure to environmental contaminants was discussed in relation to hazards such as PFAS (freshwater fish) and phthalate derivatives. Participants discussed the importance of food in transmitting the parasites causing toxoplasmosis, Chagas disease or *Baylisascaris* infection, plus the implications of highly pathogenic avian influenza virus infecting dairy cows in the USA. Globally, antifungal resistance is of escalating concern. It was reported that climate change is a driver for the food oil industry's increasing concern

over mycotoxins in their grain supplies. Also discussed were the increased uptake of plant-based proteins and insect-based foods, and how this might be changing consumer exposure to known risks such as acrylamide and allergens. Recent research supported reconsideration of some emerged risks: Cyclic imines from marine microalgae and semicarbazide in whey protein products.

The ERIS team also received multiple signals from their network that identified quinolizidine alkaloid exposure through lupins as a re-emerging concern.

EFSA meetings: [EREN](#) and [StaDG-ER](#)

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Summary of activities

Identified this quarter were

- 5 emerging issues concerning food or the food industry.
- Signals prompting updates to 32 identified emerging risks.
- 53 signals that did not meet the requirement of being a foodborne emerging risk to human health.

The ERIS Action Forum will decide if they want to undertake actions on these signals or identified emerging issues.

Featured emerging risks and issues

Potential foodborne transmission of *Helicobacter pullorum*.

Helicobacter pullorum colonises the gut and liver of poultry and has been associated with poor health in these birds. *H. pullorum* has also been detected in people suffering from a range of gastrointestinal-based health conditions, but also from healthy people. *H. pullorum* has been found in poultry products and these foods are considered important vehicles of transmission. Thanks to FSANZ for the initial information.

Non-compliant labelling and adulteration of insect-based products sold on internet platforms.

Trade in insect-based food products is increasing and many products are available from e-commerce (online) platforms. EU-based research has found widespread non-compliance with EU labelling requirements for insect-based food products sold through e-commerce, plus evidence of both ingredient substitution and contamination. The presence of undeclared allergens is the main safety concern.

Highly Pathogenic Avian Influenza (HPAI) in dairy cows (USA). Since the early 2000s, the H5N1 subtype of the HPAI virus has caused unprecedented outbreaks of influenza in poultry flocks. Spillover events have occurred among wild and captive mammals. On 25 March 2024, HPAI was first reported in dairy cows in Texas and Kansas, with herds having self-limiting infections. Subsequently, this virus has infected herds in multiple states. Pasteurisation is an effective control for milk from infected cows. There are concerns that the spread of HPAI among dairy cows increases the opportunity for human infections to occur, and for the virus to obtain genetic mutations that sustain human-to-human infection.

Some other observations

- Steeping coffee beans in cold water to produce cold-brew coffee, and dry aging fish, are newer food trends occurring at food service. Preventing contamination is important.
- Methylmercury is a known hazard that can accumulate in seafood. A novel approach has assessed lifetime dietary exposure to methylmercury, taking into account social, economic and demographic life trajectories.
- An overview of food fraud issues for 2023 shows that a wide range of food commodities are affected. A separate review found that economic advantage, drug trafficking and revenge were all important motivators for people intentionally adulterating foods with chemicals. Media reports are an important source of incident information.
- A literature review, laboratory testing and observational studies have together shown that smart devices can be a source of microbiological contamination in the kitchen.
- A retrospective analysis of foods implicated in outbreaks showed missed opportunities for preventing illness using food irradiation.
- The European Commission has introduced new limits for the mycotoxins T-2, HT-2 and deoxynivalenol in foods, plus received endorsement by EU Member States to ban bisphenol A in food contact materials (including a provision to ban other bisphenols).

Links to:

[Cold brew coffee study](#)
[Dry aged fish study](#)

[Methylmercury study](#)

[FAN 2023 fraud report](#)
[Chemical adulteration study](#)

[Smart device research](#)

[Review of irradiation-eligible outbreak foods](#)

[T-2 & HT-2 regulation](#)
[DON regulation](#)
[BPA ban press release](#)

The NZFSSRC member organisations funding ERIS are:

