

EMERGING RISK IDENTIFICATION SYSTEM

Enhancing Food Safety in New Zealand

Monthly Brief

July 2022



Science for Communities



New Zealand FOOD SAFETY SCIENCE & RESEARCH CENTRE

New Zealand Food Safety

Haumaru Kai Aotearoa

Welcome to Issue 10. ERIS is in year two of a two-year project. Our focus is on upskilling, expanding networks and continuous improvement. We are starting to think about what a long-term system could look like and how it may be funded.

Introducing Kaylene Larking Partnership Manager Meat Industry Association

ERIS Role: Action Forum member.

Kaylene represents the MIA and its members, who joined the ERIS project because of the value the industry sees in responding proactively to emerging food safety issues. Kaylene has been managing MIA's research portfolio through the NZFSSRC since the Centre was formed.

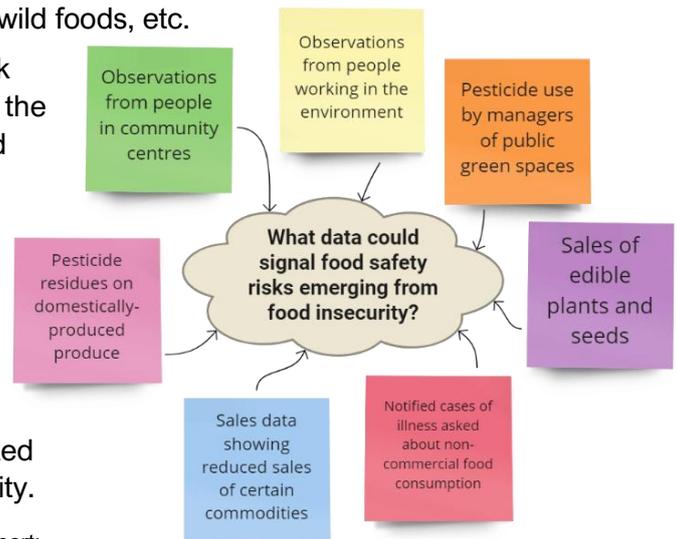
The meat industry has strong systems for managing known food safety hazards, but the landscape is continuously moving and



the ERIS is proving a valuable tool to track these shifts. The ERIS also provides the opportunity to work across sectors to improve food safety and this networking is a benefit.

Think tank. The definition of a think tank varies but a generic description is a group of experts working together to solve a problem, often focusing on influencing public policy. During its May meeting, the Emerging Risk Identification Panel showed its power to act as a think tank through combining their expertise and network knowledge. This group normally focuses on identifying emerging food safety risks, not on influencing public policy. However, when members were challenged to identify sources of information that could signal an emerging risk a wide range of ideas surfaced. Panel members identified that food safety risks could arise as consumers become increasingly unable to purchase food, either due to economic hardship or food supply problems. It was agreed that the main signal for this occurring was an increase in public health notifications associated with home grown or expired foods, wild foods, etc.

But, with a think tank approach, the group identified other sources of information that, when combined, could be used to identify emerging food safety risks linked to food insecurity.



Details in meeting report:

<https://www.nzfssrc.org.nz/assets/ERIS/ERIS-ID-Panel-Report2-May2022-FINAL.pdf>

Common unknowns for pathogens in NZ foods. Some hazards identified through ERIS share similar characteristics. Namely, the hazard is present in New Zealand but whether it is an immediate or emerging food safety issue is unknown. An example is the potential foodborne transmission of *Streptococcus equi* subspecies *zoepidemicus* (SEZ). Elsewhere, there have been outbreaks with high fatality rates among pigs and poultry. There are few reported human illnesses but these cases experienced severe health effects. Foodborne cases have been described but the foods implicated (raw milk and meat) have reasonable risk management measures available (pasteurisation, cooking). However, there are raw milk drinkers and rare meat eaters. SEZ is present in NZ (horses) but is it present in NZ food or food animals? If so, are the strains here likely to cause illness?

The NZFSSRC member organisations funding ERIS are:



United Fresh
New Zealand Incorporated

Featured emerging risks and issues

Heat tolerant Enterobacteriaceae. Some strains of *Escherichia coli* and *Salmonella* spp. have been identified that tolerate higher temperatures. In laboratory studies, these survived better when heated to 60°C, and to 71°C in meat patties. They also tended to be more tolerant of other stressors such as salt.

Mycotoxins in pseudocereals. Mycotoxin-producing fungi can naturally occur on cereal and grain crops and pose a risk to human health if conditions become suitable for fungal growth and toxin production. A study has detected mycotoxins on quinoa.

Colourants from butterfly pea flowers. Butterfly pea flowers (*Clitoria ternatea*) and products made from these are increasingly common in foods and beverages. Although these flowers have a long history of traditional use there are some concerns over their safety. International regulatory authority views differ.

Summary of activities, June 2022.

New emerging risks and issues. Three emerging risks concerning food were identified in June along with two emerging issues for which the role of food was not yet clear, but the issue was considered to be important for the food industry:

Concerns food:

- Colourants from butterfly pea flowers
- Chlorinated paraffins in food
- Mycotoxins in pseudocereals

Might concern food

- Heat tolerant Enterobacteriaceae
- Foodborne transmission of *Clostridium difficile*

Many of these are likely to be important to New Zealand and briefing notes are being prepared. The Action Forum will decide if they want to undertake actions on these identified emerging risks. Briefing notes sourced from publicly available information can be provided by the ERIS coordinators to NZFSSRC members upon request.

Other assessed emerging issues. There were eight emerging issues assessed during June that did not meet the requirement of being a foodborne emerging risk to human health. A list of these emerging issues is maintained for later review.

Some other observations. For interest, not currently in the ERIS Emerging Risks Register.

- A pre-print article reports that *E. coli* isolates from the faeces of healthy adults between 1980 and 2010, were, over time, increasingly likely to carry the genes linked to human infection. Dietary changes were one hypothesised cause.
- EFSA is working to establish health-based guidance values for substances that are both nutrients and regulated products. Copper has been assessed and it has been proposed that the Acceptable Daily Intake of copper from all foods is lowered from 0.15 to 0.07 mg/kg. This will affect pesticide and food additive use.
- Contact with backyard (privately-owned) poultry has been implicated as the cause of more than 200 cases of salmonellosis in the USA since February 2022. Foodborne transmission appears less important but could be contributing.

<https://www.biorxiv.org/content/10.1101/2021.06.24.449745v4.full>

<https://www.efsa.europa.eu/en/news/update-d-advice-acceptable-intake-copper-consultation-open>

<https://www.cdc.gov/salmonella/backyardpoultry-06-22/index.html>

Further information. This brief has been prepared for the NZFSSRC's funding and partner organisations by Nicola King (ESR), with the support of Seamus Watson (ESR) and Kate Thomas (NZFS).

Institute of Environmental Science and Research (ESR). www.esr.cri.nz

New Zealand Food Safety Science and Research Centre (NZFSSRC). <https://www.nzfssrc.org.nz/our-work/eris/#/>

New Zealand Food Safety (NZFS). www.mpi.govt.nz/food-business

Contact: Nicola.King@esr.cri.nz

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