

FOOD SAFETY INSIGHTS AND EMERGING RISKS – 10 MAY 2024

The following is a digest of publicly available information of interest to the New Zealand food system. Internet sources, commentaries, news media and science publications are reviewed regularly for events or signs of change that might have a bearing on the safety of food. Items are screened and selected for their relevance and significance against the broad criteria of *health, uncertainty, future, cost* and *trust*. Neither the overall collection, nor inclusion of any specific item, indicates endorsement by New Zealand Food Safety (NZFS) or New Zealand government policy. Every effort is made to ensure content accurately reflects the information available to the ‘last date of information’ noted in the document footer. Please note hyperlinks in the text refer to external internet resources that are outside the control of NZFS. Readers should take advice before relying on content summarised here or at the referenced websites. This information is offered for interest of New Zealand food businesses and does not constitute legal advice or official direction. Food businesses should consider this information and apply learnings to their food management system as appropriate.

High Pathogenicity Avian Influenza
remains poorly adapted to mammals



In the United States of America, cases of High Pathogenicity Avian Influenza (HPAI) infection in dairy cattle herds have been seen in 9 states since the first detection on farms in late March [LINK]. Likely a single transmission event from wild birds to cattle occurred in late 2023 since the first detection of HPAI in wild birds in North America in December 2021 [LINK]. Transport movements of cattle for production practices appear to have disseminated cattle cases long distances interstate. Further investigation has revealed lactating cows may have a mild, 2-3 week period where milk production is reduced associated with infection of the mammary glands [LINK].

HPAI virus transmission amongst different hosts results in genetic exchange and evolution. Genomic analysis of the virus from cattle demonstrated a receptor in the haemagglutinin protein of the virus with affinity for human respiratory epithelial cells [LINK]. However, the virus did not have a key mutation in another protein regarded as important for strains to be adapted to replicate in mammalian cells [see LINK]. One person contracted conjunctivitis associated with this series of infected herds, but no other human infections have been detected [LINK]. While another report draws evidence together that HPAI infection was also transmitted to two cats associated with an infected herd, infection of the cats from wild birds could not be absolutely ruled out [LINK].

Circulation of virus in wild bird populations has resulted in geographical spread of HPAI across Eurasia and the Americas, however Australia and New Zealand remain free. Substantial measures at the New Zealand border mean that the main vulnerability to New Zealand would be from infected migratory shorebirds or seabirds surviving migration to reach New Zealand.

The risk of HPAI arriving in New Zealand is therefore judged to be low [LINK]. Antarctic and circumpolar circulation of marine wildlife may also expose New Zealand, but while there have been limited detections in some Antarctic species, there is now reduced concern for outbreaks there during the Antarctic winter [LINK].

This *Bulletin* previously referred to international cooperation on HPAI on 11 April [LINK]. Current information about New Zealand’s preparedness work for avian influenza lead by Biosecurity New Zealand, including wildlife disease surveillance, can be found at <https://mpi.govt.nz/hpai>

Reassurance pasteurisation is effective
inactivating HPAI virus



The World Health Organization evaluates the overall public health risk posed by HPAI to be low, but low-to-moderate for those with exposure to infected birds or animals or contaminated environments [LINK]. These are current considerations for occupational exposure in overseas regions where HPAI is established in wild bird populations or has been found spilling over to other animals (Asia, Europe and North and South America and parts of Africa). For the recently identified cases in dairy cattle in the United States of America, authorities have moved quickly to implement animal disease testing and control orders [LINK]. Similarly, Canada has introduced precautionary measures [LINK].

Nevertheless, pasteurised milk remains safe to drink in North America because HPAI virus is sensitive to heat treatment. The United States Food and Drug Administration (FDA) found only viral fragments of HPAI using the highly sensitive polymerase chain reaction (PCR) molecular testing in samples of commercial supply and retail milk there [LINK]. The FDA confirmed pasteurisation is effective inactivating HPAI in milk through negative results inoculating eggs [LINK].

Raw milk is a high risk food for anybody who consumes it [LINK]. Due to limited information available about risk posed by HPAI virus in raw milk, the current international advice is that people should not consume raw milk or unpasteurised cheese products made from milk from cows showing symptoms of illness, including those infected with avian influenza or exposed to those infected with avian influenza [LINK].

Soybean harvest forecast uncertainty



Global soybean production has increased from 250 million to 350 million tonnes in the last 10 years, driven substantially by production in the United States of America and in Brazil [LINK]. Three quarters of global supply is fed to livestock, with the remainder for food for humans or for biodiesel. There are complex intersections of drivers affecting commodity prices, socioeconomic effects and environmental consequences which have been referred to as “metacoupled systems” – that is effects within and across adjacent and distant systems and at different scales [LINK].

This year, the largest harvests had been forecast, however current projections are now being impacted by a range of factors [LINK]. Floods in Brazil are estimated to reduce the harvest by 5% [LINK]. In Paraguay, exports are expected to be slowed by low river levels [LINK]. In Argentina, striking maritime workers undertaking industrial action are reported to be impacting exports [LINK]. New Zealand imports of soybean meal for stock feed originate almost entirely from Argentina [LINK].

Wider considerations that will influence soybean include regulatory approaches and community acceptance of genetic modification and herbicide residues [see LINK], implementation of precision farming [LINK], social licence for conservation impacts [LINK], and process innovation, particularly related to reducing allergenicity or other anti-nutritive traits of soy [LINK]. Trials in the 1970’s of soy production in New Zealand encountered the challenge of low yields and harvest before wet autumn weather risked fungal spoilage [LINK]. Contemporary New Zealand progress in soy production would depend on suitable cultivars gaining GE-free market opportunities [LINK] such as those meeting cool temperate requirements of north-central Europe [LINK].

Prospects for smart food packaging



Members of a research consortium at McMaster University, Ontario, Canada have developed a “Lab-in-a-Package” platform and have written about challenges they face commercializing their system [LINK]. They describe resistance or barriers from regulators, business and consumers. Although the system can be calibrated to detect a specific level of spoilage, regulators have not set thresholds they can apply. Businesses have low tolerance for additional cost per item, even though food wastage amounts to hundreds of billions of dollars of loss annually. Consumers are hesitant about unfamiliar technology in contact with their food and are also reluctant to pay extra for it. Despite these frustrations, the group frames advice about making incremental progress in technical and functional aspects of their system.

Smart, active and intelligent packaging includes a range of sensing, indicating and modifying properties of food packaging systems [LINK]. A wide range of technologies, materials and applications have been developed [LINK], and more recently, Internet of Things and nanomaterials are being included [LINK]. This range inherently presents challenges to effectively regulate and set standards tailored to each solution. These real-time smart food packaging systems are not yet a robust alternative to date marking, though they could be used voluntarily in parallel with current date marking labelling requirements. In New Zealand, food businesses are responsible for ensuring packaging materials in contact with food doesn’t cause or contribute to food becoming unsafe or unsuitable [LINK].

Join our webinar programme on High Pathogenicity Avian Influenza on 19 June.

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CURRENT FOOD SAFETY ISSUES – 10 MAY 2024

This note records summaries of selected food safety notifications, recalls, incidents and related events seen in regular scanning of information available to the Food Compliance & Response Directorate at New Zealand Food Safety (NZFS). The scanning process includes steps to determine if the affected food product is in New Zealand. If it is, the affected food is managed at the time of reporting by Food Compliance Services with the associated importer, distributor and retailer and may include recall action. This summary is also informed by lessons learned from recent activities by Food Compliance Services and food businesses they have worked with. These summaries may include events that are under active management by the regulator or industry. Although New Zealand may not be implicated in an event, food businesses are encouraged to consider lessons this information may hold for their own plans, practices or products.

Metal particles in biscuits from Italy



In April 2024, multiple consumer-level recalls were undertaken in Italy of various types of biscuits as they may contain metallic foreign matter [e.g., [LINK](#), [LINK](#)]. The recalled biscuits were manufactured by Fimardolci S.R.L in Italy and have been exported to multiple countries in Europe, Canada, and the United States of America (USA) [LINK](#). A full list of varieties of the recalled biscuits can be found on the Italian Ministero della Salute website [LINK](#).

The recalled biscuits have not been imported into New Zealand from Italy. However, given the wide distribution of these recalled biscuits, food businesses importing similar products are encouraged to confirm with their overseas suppliers, should they believe the biscuits they have imported were manufactured by Fimardolci S.R.L in Italy. NZFS is continuing to monitor recalls in countries that have received the recalled biscuits.

Biogenic amines and Deoxynivalenol (DON) detected in beer in Hong Kong



In April 2024, the Consumer Council, a statutory body for consumer protection in Hong Kong, found biogenic amines and DON in tests of beer products available in the local market [LINK](#). These products were not recalled in Hong Kong at at this time. New Zealand has not been implicated by this event to date.

Biogenic amines are produced from amino acids during the bacterial fermentation process. Negative health effects, such as nausea, diarrhoea, or headache, may occur when levels of histamine and other biogenic amines cannot be metabolized [LINK](#). DON is a mycotoxin which is commonly found in cereal (i.e., wheat, barley, maize) contaminated by mould. High levels of DON can cause acute temporary negative health effects in people [LINK](#). Both chemicals can be predisposed by unhygienic conditions or poor-quality foods.

While there is no regulatory limit for levels of these chemicals in food, good operating practices [LINK](#) and relevant requirements set out in risk-based measures [LINK](#) of food businesses should minimise their presence. To ensure the safety and suitability of food, food businesses must ensure food is stored following the storage conditions on the label [LINK](#). Food exported overseas may be subject to testing by overseas government agencies and/or third-party organisations (i.e., Consumer Council) in destination countries. NZFS encourages food exporters to both ensure they’ve met the Ministry for Primary Industries’ (MPI) requirements to export [see [LINK](#)] as well as working with their importer to make sure their product meets all the requirements of the destination market, before export. Destination market requirements may differ between markets. Additional information is available on the MPI website [LINK](#) and food businesses can find help by contacting MPI [LINK](#).

Undeclared allergens in vegan and vegetarian meat products



In April 2024, a consumer-level recall was undertaken in the United Kingdom (UK) of vegetarian-style mutton pieces, originating from Malaysia, due to the presence of undeclared allergens (gluten and wheat) [LINK](#). While there is no evidence that this product has been imported into New Zealand, there have been consumer-level recalls in New Zealand of similar products due to the presence of undeclared allergens in the past [e.g. [LINK](#), [LINK](#)].

Vegan and vegetarian are terms reflecting dietary choices and are not legislated in the Food Act 2014 nor the Australia New Zealand Food Standards Code in New Zealand. Surveys carried out in Canada and the UK in the past showed that vegetarian and vegan products may contain undeclared allergens [LINK](#), [LINK](#). Food businesses are recommended to check with their suppliers about the potential presence of other allergens in the vegetable protein ingredient they are using. Food businesses must follow the latest Plain English Language Labelling (PEAL) requirements [LINK](#) and have sufficient allergen management practices on-site to minimise cross-contamination risk [LINK](#).

Ethylene oxide in spice mixes from India



Ethylene oxide was commonly used in the past to fumigate dried foods such as dried herbs and spices to inhibit microbial growth. Ethylene oxide is classified as a human carcinogen and has been banned as a fumigating agent in New Zealand and other countries, including Australia [LINK](#) and the European Union [LINK](#). However, ethylene oxide may still be used to treat certain types of food in some countries, including the United States of America [LINK](#).

In April 2024, consumer level recalls were undertaken in Hong Kong and Singapore of MDH and Everest brand spice mixes as they may contain excessive levels of ethylene oxide [LINK](#), [LINK](#). NZFS is aware of the concerns about ethylene oxide treatments of spices overseas and is working with relevant overseas authorities investigating these products to monitor the situation [LINK](#).

Listeria outbreak in Denmark and Iceland



Twenty people from Denmark, Germany and Italy have fallen sick with *Listeria monocytogenes* sequence type 1607 since 2019. Two of these people have since died. Danish competent authorities carried out case interviews, and microbiological and traceability analysis as part of their investigation. In April 2024, Danish competent authorities concluded the likely source of this outbreak was sliced smoked salmon products manufactured by a local company [LINK](#), [LINK](#). The company has also exported products to Germany and Italy [e.g., [LINK](#)]. These exports have resulted in three out of the twenty cases reported. The smoked fish products were subsequently removed from sale in those countries following the detections of Listeria in those products [e.g., [LINK](#)]. There is no evidence that the recalled smoked fish products have been imported into New Zealand.

Meanwhile, competent authorities in Iceland are investigating the source of illness of six Listeriosis cases as they are experiencing a higher than usual reported number of cases. The source of illness has yet to be identified. The Icelandic Food and Veterinary Authority has since published advice to consumers and food businesses on Listeria risk and prevention [LINK](#).

NZFS monitors for overseas outbreaks that might affect food products imported into New Zealand. NZFS works with importers, distributors and retailers and may require recall action [e.g., [LINK](#)]. The NZFS website includes resources about Listeria for all types of food businesses and processors [LINK](#). Food businesses must notify NZFS if they receive any food safety and suitability-related notifications from their suppliers related to the products they have imported [LINK](#).

Multi-state outbreak of Shiga toxin-producing Escherichia coli (STEC) in USA



In April 2024, the United States of America Centers of Disease Control and Prevention (CDC) traced a multi-state outbreak of STEC associated with the consumption of organic walnuts [LINK](#). The affected walnuts were sold from bulk bins in multiple states and were supplied by Gibson Farms, Inc, a business located in California, USA. The affected organic walnuts have been subsequently recalled in the USA [LINK](#). The United States of America Food and Drug Administration (FDA) has issued an advisory for this outbreak and their ongoing investigation [LINK](#).

NZFS has confirmed with the FDA that the affected walnuts have not been exported to New Zealand. Nevertheless, multistate outbreaks are of interest to regulators and industry noting nuts are not commonly reported to be associated with STEC outbreaks [LINK](#), [LINK](#). Tree nuts may commonly be in contact with grazing animals in a nut orchard operating organic practices in parts of USA [LINK](#), [LINK](#).

THE REPORT REFLECTS OBSERVATIONS ACROSS THE PHASES OF THE FOOD SYSTEM DEPICTED BY THE ICONS TO THE RIGHT. THESE PHASES FOLLOW A MODIFIED VERSION OF THE FUTURE OF FOOD , NOTING NOT ALL FOOD CONSUMED PASSES THROUGH RETAIL CHAINS. THIS INFORMATION IS OFFERED FOR INTEREST AND DOES NOT CONSTITUTE LEGAL ADVICE OR OFFICIAL DIRECTION.		PRODUCTION		PROCESSING		DISTRIBUTION		ACCESS		CONSUMPTION		WASTE

