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Knowledge Network

# THE FOOD CHAIN

THE *safefood* KNOWLEDGE NETWORK NEWSLETTER

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**W**hen is an illegal food and beverage item not an illegal food and beverage item? The answer: when it's a product containing cannabidiol (CBD) marketed for sale in the UK. That's the somewhat unconventional situation the UK's Food Standards Agency (FSA) is presiding over following the decision to allow around 12,000 products made with CBD extracts to remain on the market while their safety is fully assessed. Other regulators have not been so flexible. Any CBD products classed as novel foods are still banned in the EU, and therefore in Ireland, while suppliers await the first successful application to sell their products legally within the bloc. Questions over how to regulate CBD food and drink products have bubbled to the surface following their emergence on the Irish and UK markets from around 2016. The extent to which they should be granted market access has been a source of debate and contention across the world as regulators grapple with uncertainties over the risks associated with their consumption and the overlap with other regulatory spheres such as narcotics and medicines. So how are food regulators tackling this complex issue?



Nick Hughes

CBD sold as food, or as a food supplement, features in products such as oils, gel capsules, sweets and confectionery, bread and other bakery products, and drinks – the latter being a particular focus of new product development. The CBD used in these products is mainly extracted from cannabis flower and leaves and the resulting product referred to as 'CBD isolate'. CBD itself is not classified as a narcotic drug, however in trying to maximise the CBD content of the isolate it retains traces of other phytocannabinoids including those that are treated as controlled substances. The most well-known of these narcotics is tetrahydrocannabinol (THC), the substance that gives cannabis smokers a high.

## Playing catch up

In some respects, regulators are playing catch up with a market that is already generating considerable interest among consumers. A recent survey commissioned by *The Grocer* magazine of 4,000 UK consumers found widespread awareness of CBD products. Just under three-quarters of those surveyed (73%) said they know what CBD is, while 20% said they consume CBD food and drink. A significant proportion – 38% – also believed that CBD is good for overall health, according to *The Grocer's* research. Although no specific health claims have been approved for CBD products at EU level, some studies suggest it has potential to contribute to improved physical and mental health by providing pain relief and relieving anxiety and depression. A 2015 animal-based study from the *European Journal of Pain* concluded that CBD has therapeutic potential for relief of arthritis pain-related

## Novel or not?

Some naturally derived products from the hemp plant such as hemp seeds and hemp seed oil are not considered novel since there is evidence to show a history of consumption before May 1997. This ceases to be the case when these products are refined, and the selected components added to food and drink as an ingredient.

behaviours and inflammation without evident side-effects. Yet there is also evidence of CBD consumption being linked to side effects including nausea, fatigue and irritability.

### Safety risk

Moreover, certain illegal products pose a potentially serious risk to public health. The sale – often online – of sweets and gummies containing high levels of THC has been a source of significant concern for regulators and enforcement bodies. In these cases where a significant amount of THC has clearly been intentionally added to a product as a recreational drug, the applicable law in Ireland is the Misuse of Drugs Act, 1977, rather than food law. Where a low level of THC is inadvertently present in hemp-based foods it is considered a contaminant and can be managed using various provisions in EU Food Law.

“We were planning to do some work on the safety aspects [of THC] but we are leaving that to those government agencies who are already actively engaged in that area. We are focused on the hemp and CBD food products on the market now,” says Dr Pat O’Mahony, Chief Specialist, Food Science & Technology at the Food Safety Authority of Ireland (FSAI).

Even products sold in good faith could breach various food safety and authenticity rules. A national survey of CBD products coordinated by the FSAI in 2019 and published in 2020 found that the majority of products analysed were in breach of various articles of food law and some posed potential safety risks for consumers. Among the findings were that 37% of the products tested had levels of THC that if consumed at the maximum recommended dosage could significantly exceed the safe limit set by the European Food Safety Authority (EFSA) of 1 microgram/kg/body weight/per day. Around a third (34%) of the samples were classified as novel foods and should not have been on the market at all, while 41% contained CBD levels which differed by more than 50% compared to the declared level.

Dr O’Mahony says the FSAI has had occasion to remove a number of CBD products from the Irish market that breached food law, adding that problems often relate to new start-up companies who haven’t yet acquainted themselves with the relevant legislation.

### New advice

At the moment there is no safe upper limit established for CBD products in Ireland and the EU – a consequence of there being an absence of data since no products are currently authorised for sale on the market.

In the UK, the FSA recently updated its precautionary advice to recommend that healthy adults should limit their consumption of CBD from food to 10mg per day, equivalent to 4-5 drops of 5% CBD oil and a sharp drop from the previous 70mg per day recommended limit. It said the change in advice was based on new evidence from the industry and updated advice from its independent scientific committees, including evidence of some adverse impacts on the liver and thyroid over a period of time. The FSA continues to advise that CBD is not taken by people in vulnerable groups, including children, people taking medication and those who are pregnant or breastfeeding and those trying to conceive.

“The more CBD you consume over your lifetime, the more likely you are to develop long-term adverse effects, like liver damage or thyroid issues,” says Professor Robin May, Chief Scientific Advisor at the FSA. “The level of risk is related to how much you take, in the same way it is with some other potentially harmful products such as alcoholic drinks.”

The new FSA guidance has provoked an angry response from the CBD industry. In a statement, the Cannabis Trades

Association expressed concern, arguing that nowhere in the FSA’s press release did it explicitly state that the guidance was merely advisory and that the lack of clear communication may lead consumers and retailers to interpret it as a mandatory limit. It also suggested that foods already on the market currently adhering to the previously recommended daily upper limit of 70mg per adult are now in a state of limbo.

There is concern too among businesses over “the very narrow range of evidence the FSA considered when coming to the conclusion over its guidance”, says Dominic Watkins, global head of consumer sector at law firm DWF.

### Pragmatic approach

Suppliers of CBD food and drink products are used to run-ins with the regulator. Brands have been battling for years to have their products authorised for legal sale – to date without any success within the EU.

The UK has taken a slightly different approach following Brexit and the creation of its own bespoke novel foods regime. Cognisant of the mainstream market that has already developed for CBD products, the FSA has taken a pragmatic view and drawn up a list of around 12,000 CBD products currently going through the novel foods authorisation process. These include products that were on the market prior to 13 February 2020 for which the FSA had received an authorisation application before 31 March 2021 and for which the application is considered to be sufficiently progressing towards validation.

Although the FSA is not endorsing the sale of any CBD food products, regardless of whether they are on the list (those not on the list should be removed from sale), the process in effect means listed products can be marketed in England and Wales prior to receiving formal regulatory approval.

A key question now, according to Watkins, is what impact new consumer guidance to limit consumption of CBD from food to 10mg per day has on the evidence companies have provided to support their product applications. “There will be businesses who have gone ahead and produced studies that work on the basis of the previous 70mg limit,” he says. “If the implication is that a product with CBD content above the new level of 10mg is unsafe that raises questions over how the market will move forward.”

The UK government for its part does seem intent on establishing a legal framework for the sale of CBD food and drink products. The Home Office is seeking to control the presence of THC in CBD products with the aim of preventing any pronounced psychoactive or psychotropic effects and ensuring consumer safety. The government recently accepted the recommendation from the Advisory Council on the Misuse of Drugs that the total dose of delta-9-THC and all other controlled phytocannabinoids in consumer CBD products be limited to 50mg in a unit of consumption.

As for the future prospects for CBD food products in the EU market, Dr O’Mahony is doubtful that novel food approvals are close for hemp-based CBD food products since the hemp plant contains more than 100 cannabinoids, the vast majority of which are as yet uncharacterised and whose safety may be difficult to establish. He does however believe that products containing synthetic CBD – a form of CBD that is made in a lab using biological or chemical processes – could be closer to a safety assessment outcome since more data is available for that single CBD constituent.

For the moment, in Ireland and to a lesser extent the UK, the CBD market is effectively in stasis while regulators decide whether these emerging food and drink products have a legitimate contribution to make to our future diets.

# EMPOWERING FOOD SAFETY PROFESSIONALS

## Learn more about opportunities provided by The Food Safety Skills Fund Programme

In the dynamic world of food safety, continuous learning and collaboration are essential for ensuring the highest standards. The Food Safety Skills Fund Programme, an initiative by **safefood**, is a beacon for professionals committed to advancing food safety across the island of Ireland. This innovative programme provides bursaries to **safefood** Knowledge Network members, empowering them to enrich their skills, broaden their experiences, and foster vital connections within the food safety community.

“At its essence, the Food Safety Skills Fund Programme strives to cultivate a culture of excellence and collaboration in the realm of food safety,” shares Trish Twohig, Director of Food Safety, **safefood**. “We firmly believe that by investing in the development of our members, we not only elevate individual competencies but also strengthen the collective capacity to safeguard public health and enhance consumer confidence.”

The programme is currently run on an annual basis with this term ending in December 2024. The programme offers a limited number of funded bursaries, up to €1,200 or sterling equivalent, subject to vouched costs. These bursaries empower participants to embark on diverse learning opportunities, ranging from visits to laboratories and attendance at conferences to engagement with centres of excellence and participation in specialised training events focused on food safety. The programme is open to members working in food safety based on the island of Ireland. **safefood** strongly encourages cross-border collaboration through this initiative, not only to enrich participants’ perspectives but also to facilitate the exchange of best practices and the alignment of food safety standards across the island.

Emma Duffy, an Environmental Health Officer based in Belfast, shares her enthusiasm for the programme, stating, “I thoroughly enjoyed the Train the Trainer course I attended through the Food Safety Skills Fund Programme. I hope to cascade certain elements of the course to my colleagues, certainly on giving feedback when we present and looking at the way we give training. I hope to record some webinars for training purposes for our food businesses and also for our external council website.”

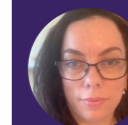
The impact of the programme extends beyond individual development to broader outcomes, including contributions to policy development and bolstering the knowledge economy. By equipping professionals with the latest insights and tools, the programme empowers them to actively shape policies that uphold the highest standards of food safety and support sustainable economic growth.

For those aspiring to join the **safefood** Knowledge Network and avail themselves of the opportunities offered by the Food Safety Skills Fund Programme, the process is straightforward. Simply sign up for membership through the **safefood** Knowledge Network website ([www.safefoodkn.net](http://www.safefoodkn.net)) and submit a completed application form. With no set closing date for applications, interested individuals are encouraged to apply at their earliest convenience, as bursaries are allocated on a first-come, first-served basis or until the programme fund is exhausted.

In conclusion, Trish Twohig reiterates **safefood**’s commitment to advancing food safety excellence across the island of Ireland. “Together, through initiatives like the Food Safety Skills Fund Programme, we can build a resilient food safety ecosystem that not only meets current challenges but also anticipates and adapts to future ones.”

For more information, please visit [www.safefood.net/food-safety/skills-fund](http://www.safefood.net/food-safety/skills-fund)

### Some 2023 participants in the FSSF programme



**Name:** Emma Duffy  
**Organisation:** Belfast City Council  
**Course attended through the FSSF:** Train the Trainer



**Name:** Orla Fenelon  
**Organisation:** The State Laboratory Co. Kildare  
**Meeting attended through the FSSF:** The Society of Environmental Toxicology and Chemistry Europe 33rd Meeting, Dublin, Ireland



**Name:** Dr Yunhe Hong  
**Organisation:** Queen’s University Belfast  
**Conference attended through the FSSF:** China International Food Safety & Quality Conference, Beijing, China



**Name:** James Tate  
**Organisation:** Queen’s University Belfast  
**Conference attended through the FSSF:** 33rd Anniversary World Congress on Biosensors, Busan, South Korea



**Name:** Dr Geraldine Dowling  
**Organisation:** Atlantic Technological University  
**Meeting attended through the FSSF:** United Kingdom and Ireland Association of Forensic Toxicologists meeting in Rome, Italy



**Name:** Leo O’Connor  
**Organisation:** Health Service Executive, Co. Tipperary  
**Course attended through the FSSF:** Advanced HACCP Design & Validation based on Risk Assessment



**Name:** Noel Finn  
**Organisation:** Public Analyst Laboratory, Cork  
**Meeting attended through the FSSF:** EURL Workshop, Copenhagen, Denmark



# COOKERY CHALLENGE

## Are smart devices in the kitchen a recipe for contamination?

food safety and smart device usage. While participants acknowledged the risk of bacterial transfer from devices, there existed a low perceived risk of contracting food poisoning at home. Moreover, socio-demographic factors such as gender and education level influenced both self-reported and observed behaviours, indicating varying levels of attentiveness to hygiene practices.

### Implications and Recommendations

The findings of the research project have implications for both public health and consumer education. Despite the widespread use of smart devices in the kitchen, there exists a critical need to enhance consumer awareness of the associated food safety risks. This is particularly relevant for more vulnerable people such as those who are over 65, pregnant or have an underlying medical condition which compromises their immunity.

Recommendations from the project included promoting regular disinfection of smart devices and advocating for a dedicated kitchen device could mitigate the risk of cross-contamination. In addition, by encouraging consumers to adopt simple, yet effective measures, such as handwashing between handling raw ingredients and touching devices, we can collectively strive towards safer kitchen environments.

Dr Mairead McCann, Technical Executive at **safefood**, emphasised the importance of this research, stating, "Understanding the potential risks associated with using smart devices in the kitchen while cooking high-risk foods is crucial for ensuring food safety in our homes." This sentiment underscores the necessity of addressing these findings to safeguard public health.

In conclusion, while smart devices have transformed the way we approach cooking and meal preparation, their integration into the kitchen presents its own set of challenges. By combining technological convenience with an awareness of food safety, we can keep our cooking both creative and safe for everyone.

For more information, please see [www.safefood.net/research](http://www.safefood.net/research)

In today's digital age, where technology seamlessly integrates into our daily lives, even the most traditional spaces like the kitchen are not spared. From searching for recipes to watching cooking tutorials, capturing moments for social media, smart devices have become indispensable tools for many during meal preparation. A recent research project commissioned by **safefood** investigated the use of smart devices and food preparation in domestic kitchens across the island of Ireland. Led by a team from Queen's University Belfast, St Angela's College Sligo, and Ulster University, this study revealed important insights into consumer behaviour and associated microbiological food safety risks.

### Understanding Consumer Behaviour

Observations from the in-kitchen observational study revealed a significant reliance on smart devices during meal preparation, with smartphones emerging as the device of choice for most participants. However, what caught the researchers' attention was the fluctuating adherence to food safety practices. Despite the awareness of potential hazards, such as cross-contamination, observed behaviours often fell short of recommended guidelines. Notably, hand hygiene, particularly after handling raw ingredients like chicken and eggs, was found lacking in a significant portion of participants.

### The Microbial Terrain

The microbial analysis further illuminated the potential risks lurking on our smart devices. Food poisoning bacteria such as Salmonella and E.coli were found to survive on smart device screens for up to 28 hours. In addition, Enterobacteriaceae contamination was detected on 6% of pre-cleaned tablets, showing cross-contamination of these devices during the cooking activity.

### Insights from Consumer Perspectives

Delving into consumer perceptions through focus groups and an online survey uncovered nuanced attitudes towards



# GROWING RISK

## New research into mycotoxins – fungal pathogens that can cause serious health issues

Dr Brett Greer is a Senior Research Fellow at the School of Biological Sciences at Queen's University Belfast. Here, he shares the findings of his **safefood**-funded research into mycotoxins in cereals for human consumption.



Dr Brett Greer

identified, only twelve have been legislated for in human food and animal feed, including; Aflatoxins, fumonisins, ochratoxin A, zearalenone, deoxynivalenol, T-2 and HT-2 toxin, with the latter two (T-2 and its metabolite HT-2) being important mycotoxins in the oat industry on the island of Ireland.

### What are mycotoxins and what food safety threat do they pose?

Mycotoxins are fungal pathogens that are naturally produced by fungi (moulds) and which can have serious implications for human and animal health, with the main route of exposure being through ingestion of contaminated food/feed. Their health effects range from kidney and liver damage, and gastrointestinal issues, to acute poisoning and long-term effects such as immune deficiency and cancers. They are also known to cause sickness, with one of the main mycotoxins, deoxynivalenol (DON), also being known as vomitoxin. They naturally contaminate the majority of cereal grains such as oats, barley, wheat, corn, maize etc. while growing and in storage.

The type of fungus and the mycotoxins produced are very much dependant on the climate in which the cereal is grown, with climate change expected to drive the contamination of these crops, necessitating greater surveillance and control to safeguard the food chain. Of the hundreds of mycotoxins

### Can you share the objectives of your research?

There were several objectives in this research project, including:

- Review the current commercially available rapid screening methods for the detection of the T-2 and its metabolite HT-2 in cereals for human consumption;
- Conduct a comprehensive survey of oats and barley to determine the mycotoxins that frequently contaminate these cereals in Ireland and the UK;
- Analysis of oat samples before and after processing to assess the impact of the processing procedure on the levels of T-2/HT-2.

Cereal grains such as oats can be analysed at the farm or facility, where they are processed for human or animal consumption. In this case, commercially available rapid diagnostic kits were used to analyse oat samples; these are usually used for screening, i.e. to check if something

may be present, and are not confirmatory. This type of analysis is rapid due to the requirement for an answer as soon as reasonably possible in order for a batch to be released after processing, and in fact, the same technology was used for COVID testing. In comparison, testing laboratories generally use confirmatory methodologies that are usually performed on more (expensive) technological platforms such as liquid chromatography coupled to mass spectrometry (LC-MS), with this technology considered the gold standard in the industry. LC-MS instruments, although more expensive and analytically complex, give an end result that is fully confirmatory, accurate and provides more information in regard to other mycotoxins possibly present. One of the main objectives of the project was to evaluate the accuracy of the commercially available rapid test(s) used by the industry, with several test kits for the analysis of T-2 and its metabolite HT-2 compared against the same sample analysed by LC-MS.

### What were the key findings of your study?

One hundred oat samples were analysed using several of the commercially available rapid test kits, with the results compared to the same samples analysed by LC-MS (gold standard). Overall, with the current legislative standards for the control of T-2 and HT-2 toxins in oats, two of the commercially available rapid test kits demonstrated reliable results when compared with LC-MS, including the number of false negative/false positive results generated. In terms of unprocessed oats, T-2/HT-2 toxins were detected in 94% of samples, with 16% of unprocessed oat samples exceeding the current EU indicative limits set for the sum of T-2/HT-2. In addition, unprocessed oat samples were analysed for other regulated mycotoxins such as deoxynivalenol and zearalenone, with their reported concentrations well below their respective legislative limits, while another mycotoxin, ochratoxin A, exceeded its legislative limit in 3% of unprocessed oat samples.

Another finding was the co-occurrence of T-2/HT-2 and deoxynivalenol, T-2/HT-2 and ochratoxin A, and T-2/HT-2 and zearalenone, with one sample containing all four of these mycotoxins. This is important because co-occurring mycotoxins can have an effect greater than their sum. In regard to the processing of the oats to the finished product for human consumption, although the prevalence of T-2/HT-2 was still high (94%), no regulatory violations were observed, indicating that the industrial processes used are effective in reducing contamination levels of these toxins in oats. Similarly, the other regulated mycotoxins, such as deoxynivalenol and zearalenone were detected in the finished product after processing, albeit at concentrations well below the legislative limits.

### How do these findings impact consumers and the food industry?

In terms of the unprocessed oats, 16% of samples tested were in breach of the current EU indicative limits set for the sum of T-2/HT-2 (1,000 µg/kg). However, if the regulatory limits are halved from 1,000 to 500 µg/kg, 34% of samples would exceed these new limits, doubling the original number of samples that would be non-compliant. Furthermore, although none of the processed oats that were tested exceeded the current EU guideline values, halving these

values, [as mooted by the EU], could lead to some processed oat samples exceeding the new thresholds, thereby increasing the number of non-compliant samples and creating challenges for the sector.

### What are your research recommendations for improving mycotoxin control and monitoring in the cereal processing industry?

At present, I am working on another mycotoxin-related project alongside leading EU experts, Mycotox-I, which aims to assess the risk of mycotoxin contamination of cereals produced on the island of Ireland, focusing predominantly on oats. There are several parts of the project, with the overall aim of reducing the natural contamination of oats by mycotoxins as much as possible.

To do this, various factors will be assessed, including the growing, storage and processing of oats to produce the final product for consumption. State-of-the-art analytical tools including LC-MS will be used to analyse the mycotoxin levels produced by mycotoxin-producing fungi from various trials carried out in both glasshouse and field experiments. The field-based surveys will determine the prevalence of fungi and the subsequent mycotoxin levels, with post-harvest analysis used to determine the levels of mycotoxins in the final milled product after processing. The glasshouse and field-based studies will help to determine how disease management systems can reduce mycotoxin levels under current and future climatic scenarios, with the aim of reducing the use of fungicides by 50% by 2030.

By using state-of-the-art machine learning technology in conjunction with data on the weather (e.g. rainfall and temperature), oat variety, and previous crops grown in the field, it is hoped a new decision-making system will be tailored for Irish agricultural systems in order to support the industry and reduce the mycotoxin load in food produce.

For more information, please see [www.safefood.net/research](http://www.safefood.net/research)

## ABOUT DR BRETT GREER

**What activities do you enjoy in your spare time?** I have been doing Brazilian Jiu Jitsu on and off for around 10 years. I try to train a few times a week and I have to say, it's the hardest sport I have done! Unfortunately, my training has been punctuated by doing my doctorate part-time, and life in general.

**What are you currently watching/reading/listening to?** I always make time to watch football, and I enjoy a good series. I am currently reading several books: *The Year of the Locust* (spy thriller); *Eating to Extinction* (food related); and *The Power of Geography*. I am a massive music fan and I've been listening to the first few Cypress Hill albums, the new album by The Smile, Four Tet and much more. When I'm processing data or writing reports I tend to listen to electronic music.

## NEWS AND EVENTS



### Northern Ireland Food & Drink Awards 2024

Congratulations to Victor Hazelton from the Dunbia Group on winning the Food Safety Champion award (sponsored by **safefood**) at the recent Northern Ireland Food & Drink Awards in Belfast. Victor's initiative on safety during the shelf life of meat products exemplifies a strong commitment to food safety.

### Local Enterprise Week 2024



Tracey Thompson, **safefood**, with Kevin Curran, Head of Enterprise Cork North & West, and Lisa Finn, Business Adviser, Local Enterprise Office Cork North & West, at Local Enterprise Week 2024 – 'Making It Happen for SME's'.

**safefood** joined 36 North Cork businesses at the Mallow GAA Complex on the 6th March for an insightful event hosted by the Local Enterprise Office Cork North & West during Local Enterprise Week 2024. The workshop, themed 'Unlocking Competitiveness for North Cork Businesses,' featured keynote speaker Jim Power, economist, author and lecturer at UCD's Smurfit Business School. Attendees gained valuable insights into navigating the business landscape and accessing cost-saving competitiveness supports offered by LEOs, alongside collaboration with agencies such as Cork Chamber, Department of Social Protection, and Cork County Council. Our participation in this event underscores our dedication to assisting small food businesses in enhancing their food safety practices.

## Research Call

**safefood** is inviting tenders for research projects. To support our knowledge base, we would like to invite tenders for research in the following specific projects:

- Understanding consumer behaviours and food safety practices in air fryer usage on the island of Ireland.
- Consumer attitudes to novel foods on the island of Ireland.
- Overweight and obesity – understanding weight stigma and current discourses on the island of Ireland.
- Validating a qualitative menu index for evaluating the healthiness of children's menus in the out of home setting on the island of Ireland.

The closing date for receipt of tenders is 4pm Friday 10th May 2024. For more information, please see [www.safefood.net/research-tender](http://www.safefood.net/research-tender)



Carla Schulttais, Laura Reilly and Mairead McCann, **safefood**, at IFEX 2024 in the Titanic Exhibition Centre in Belfast from 5th to 7th March 2024.

## IFEX 2024

**safefood** joined over 7,000 attendees at IFEX 2024 in the Titanic Exhibition Centre, Belfast from the 5th to 7th March. At the **safefood** stand, attendees were introduced to our innovative food safety e-learning resource '**safefood** for business'. The bustling atmosphere, innovative displays and engaging conversations made IFEX 2024 a memorable experience for industry professionals.

# QUIZ TIME

Try your hand at this issue's quiz and you could be in with a chance to win a fantastic prize!

## Question 1

What is gochujang?

## Question 2

What flower produces a vanilla pod?

## Question 3

What drink did Dr John S. Pemberton invent?

## Question 4

How long can *E.coli* last on food packaging?

## Question 5

Grissini, challah, and injera are types of what?

## Question 6

What fruit does grenadine come from?

## Question 7

What is Joey from *Friends*' favourite food?

## Question 8

What fish is found in Caesar salad dressing?

## Question 9

What would you consume from a chawan?

## Question 10

Raw chicken should be washed – true or false?



*safefood* is delighted to offer one lucky quiz winner a fantastic food hamper (similar to pictured).

**Congratulations to the winner of issue 28's quiz, Stephen Ahern, Chief Medical Scientist and Technical Manager in the Public Health Laboratory, Microbiology Department, University Hospital Waterford.**

### Answers:

1) Natasha's Law; 2) Carbohydrates; 3) Cepelinai; 4) Fabaceae family; 5) True; 6) Apple; 7) Mozzarella; 8) Onion, celery and carrot; 9) Pink; 10) True

**To enter:** Simply complete the quiz above and send your answers to [knowledgenetwork@safefood.net](mailto:knowledgenetwork@safefood.net) before 26th July 2024. This competition is open to Knowledge Network members on the island of Ireland only.

## Food safety training

**safefood** for business is a free e-learning food safety tool for small businesses in the food industry, from manufacturing to catering, to service. It covers all aspects of basic food safety training for staff in eight short, practical and engaging modules using real-life scenarios and workplace activities. With **safefood** for business you can provide staff training and track their progress across any device as they work to achieve certificates of completion. Scan the QR code to sign up and access all the modules and resources to help keep your business food-safe. See [www.safefoodforbusiness.com](http://www.safefoodforbusiness.com)



## Get involved with THE FOOD CHAIN

We'd love to hear from you. Would you like us to feature your research or industry sector? What else would you like us to cover in the world of food safety? Send your article ideas, feedback and suggestions to [knowledgenetwork@safefood.net](mailto:knowledgenetwork@safefood.net)

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### Join the safefood Knowledge Network

To obtain free membership of the **safefood** Knowledge Network, go to [safefoodkn.net](http://safefoodkn.net) and click 'Sign Up'. Once your membership is quickly approved, you can follow the latest Knowledge Network news, learn about events, and access Knowledge Network videos, conference presentations and lots of other useful resources.

### PERSONAL ANNOUNCEMENT

**Have you got a personal announcement that you'd like to share in The Food Chain? Get in touch via email: [knowledgenetwork@safefood.net](mailto:knowledgenetwork@safefood.net)**  
**The Food Chain is printed on recycled paper and is packaged in recyclable plastic.**