

Revised food safety guideline

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Ensuring factories are cleaned and disinfected effectively is a fundamental prerequisite for the safe production of food and drink. A new member-funded project will update our guidance (Guideline 55) which helps businesses clean and disinfect their food factories. The new guide will address a number of changes in the management and practice of hygiene in food production that have emerged since this well-established guideline was first published.

A practical element of the new project will be to create short educational videos on how to carry out key aspects of hygiene in production. Industry practitioners will be closely involved in the project through a consultative group working alongside Campden BRI specialists which will meet at key stages of the project. The group will research literature and relevant regulations and combine this with the output of practical studies to collate current best practices and guidance in cleaning and disinfection.

A parallel project will follow a similar approach to produce an up-to-date 'one-stop-shop' guideline document on controlling *Listeria* during food production. ■

Catch up with the projects by checking their websites, attending our MIGs or getting in touch.



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FSA survey update

Norovirus in fresh and frozen produce

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In 2015-16, a large retail survey by the FSA found that 5.3% of lettuce, 2.3% of fresh raspberries and 3.6% of frozen raspberries tested positive for Norovirus. No routine monitoring of fresh and frozen produce for the presence of Norovirus is currently performed in the UK. Therefore, no prevalence data has been hitherto available to help companies and retailers introduce risk mitigation strategies. However, this new survey data provides the needed evidence that monitoring of various critical

points in the supply chain should be considered. If viral genomic material is found during testing, it could indicate that good practice has failed somewhere in the supply chain. This information should alert food business operators to the potential risks of virus contamination of their products.

With environmental monitoring and food sample analysis, Campden BRI is helping clients to improve their food safety management by identifying potential areas where viral contamination may be a concern. We're also the first and currently only lab in the UK which has UKAS accreditation for the detection method for Norovirus and Hepatitis A virus in soft berries and leafy greens. ■

Get in touch to find out how we can help you reduce the risk of foodborne viruses.

Contact us

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For other sites, see
www.campdenbri.co.uk/campdenbri/contact.php

support@campdenbri.co.uk
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New members

We are delighted to welcome the following new members:

3F Bio Ltd - manufacturers of meat-free protein

Bagel Nash Ltd - bagel manufacturer

Chemiteq Limited - water treatment company

Comerford Brothers Limited - baking of cakes, tarts and swiss rolls

Finlay Extracts & Ingredients UK Limited - manufacture and procurement of tea and tea extracts

Holland & Barrett International Ltd - retailer of health products and supplements

R&W Scott - manufacturers of jams and preserves

Remedy Drinks UK Ltd - drinks manufacturer

The Smarter Food Company - R&D phase processed foods company

Warners Distillery Ltd - craft gin distillery

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Please notify the Membership Department of any changes to your company's name or address to allow us to keep our records up to date.

Ecotrophelia

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The food innovation competition for students, jointly organised by Campden BRI and IFST to promote careers in food and drink, was won by a team from the University of Reading. The team will compete in the European finals later in the year. This is part of our activities to help build the industry skills for the future. ■

Find out more at eu.ecotrophelia.org

Microbiology at Lab Innovations

Roy Betts, our head of microbiology, will be on the podium at Lab Innovations (30-31 October, NEC, Birmingham, UK) addressing the latest issues in microbiology. Come along to listen and pick his brains! See you there. ■

Sign up to our free newsfeed emails

The modern food and drink industry is a dynamic and fast evolving sector, so it's vital to keep up to date with the latest developments and advances.

By signing up to our newsfeeds you'll receive topical newsfeeds on analysis and testing, food safety assurance, product development and much more. You control which topics. Members also benefit from free access to food law alerts, regulatory updates for beer, cereals and wine, our new technologies bulletin and various research reports. ■

To sign up, just visit the [opt-in page](http://campdenbri.co.uk/optin.php) and tick the topics of interest. You can also login at any time to review your preferences: campdenbri.co.uk/optin.php

For our latest news

Search 'news' at campdenbri.co.uk

Contaminant database

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Commodities used to produce alcoholic beverages vary from fruits and vegetables to nuts and cereals. They can contain contaminants such as mycotoxins, polychlorinated biphenyls (PCBs) and heavy metals. It is therefore important to know the legal limits of these contaminants and how they differ between countries.

We're currently building a comprehensive database that will inform members about the origin, toxicological data and the average level of a contaminant in brewing materials. Its user-friendly interface will allow users to filter by country, contaminant and commodity; these categories will provide the most relevant literature and news to keep our members up to date. ■

Get in touch to find out more about the database and how it can help you.



Latest blogs

Search 'blogs' at campdenbri.co.uk

What are the benefits of continuous microwave processing? by Andrew Bosman

Demand for high-quality food has put pressure on manufacturers to trial new thermal processing technologies. By rapidly heating a product, continuous microwave processing is one such technology that can potentially achieve this high food quality.

Modified atmosphere packaging - 'The carbon dioxide effect' by Lynneric Potter

MAP is well known in the food industry as a method to extend the shelf-life of a range of food products. Changing the atmosphere in the headspace of a package can reduce biochemical changes, retard microbial growth and maintain organoleptic qualities whilst reducing the need for additives. ■

Dealcoholisation - pilot scale trials

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The dealcoholised drinks industry is a dynamic sector with reduced alcohol drinks becoming increasingly popular with consumers. The international reduced alcohol beer market alone is estimated to be worth over \$25 billion by 2024, with significant growth also predicted for lower alcohol wines and spirits.

As a result, industry is turning its attention towards the dealcoholisation technologies used for such products. We are active in helping companies develop dealcoholised beers, ciders, wines and spirits to meet this demand.

Dealcoholisation methods

The two traditional methods of dealcoholisation either reduce or remove ethanol. Arrested batch fermentation keeps ethanol levels low by removing yeast at an early stage to terminate fermentation. Vacuum distillation, however, uses rotary evaporation or spinning cone technology to remove ethanol.

A third and relatively new technology, which we use at our Nutfield site, is based on 'membrane processing'. It can produce a final low alcohol, dealcoholised or alcohol-free product whilst retaining flavour.

How membrane processing works

Membrane processing uses a membrane to 'filter' ethanol and water from an alcoholic drink. The process works by flowing the alcoholic liquid parallel to a membrane at high velocity while under pressure. Water and ethanol pass through the membrane pores and so are removed from the (now dealcoholised) drink. Water is then re-introduced to replace that which was lost and recover the final volume of the dealcoholised drink.



The size of the pores within the membrane greatly influences the process. A membrane with smaller pores will reduce the loss of desirable flavour molecules (which are larger than water and ethanol) but will slow the filtration; this in turn will create a slower and more expensive process. A membrane with larger pores can filter much faster but will lose some flavour molecules. A compromise is often required to maintain product quality while managing processing costs.

How membrane processing can help you

Our facility at Campden BRI has the only unit in the UK for dealcoholisation by nanofiltration available to do small-scale commercial trials. Our pilot unit can dealcoholise any volume between one and 50 litres in a day. Larger volumes can also be processed with careful planning. The technology is also scalable to plant size. We have a range of membranes, each with a specific pore size, allowing us to work with any alcoholic beverage. In the case of highly flavoured beverages, such as gins, we use a dedicated client-specific membrane to avoid any potential for flavour cross-contamination.

The process can create specific conditions for different products. For example, during processing the pH can be regulated, and air can be excluded for oxygen-sensitive products such as beer. In addition to this, the absence of heat treatment means thermal damage is minimised.

To ensure there is no loss in flavour, we can carry out comparative taste tests on membrane-processed and un-processed samples. The samples produced by our pilot unit can be used for sensory testing, proof of concept, sensory analysis and consumer testing. ■

Contact us to find out how membrane processing can help you or to arrange a visit to see our pilot unit.



Dealcoholisation - the guidelines

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The UK government has produced guidance on low alcohol descriptors, to help the drinks industry and retailers in marketing their products responsibly.

In the UK, specific descriptors are given to drinks that are 1.2% alcohol by volume (abv) or less. The descriptors apply to drinks that contained alcohol at some point in their production. The guidance is as follows:

- alcohol-free - 0.05% abv maximum, alcohol removed
- dealcoholised - 0.5% abv maximum, alcohol removed
- low alcohol - 1.2% abv maximum
- non-alcoholic - sacramental wine only

Rules differ in EU Member States, especially for beer, on what is considered alcohol-free or not. In the Netherlands, for example, alcohol-free beer is below 0.1% vol, while in Belgium it is below 0.5% vol, below 1.0% vol in Spain and below 1.2% vol in France and Italy.

In the European Union, spirit drink names may not be used to describe a product below, or diluted with water below, the minimum alcoholic strength established for its category (for instance, 37.5% for gin).

The details around labelling of alcoholic drinks with reduced alcohol content are varied and complex. Please get in touch to find out more about the guidelines on dealcoholised drinks as this has significant implications for labelling, marketing and sale of these products. ■

Member zone

to access privileged member information and services

Solid-state microwaves - the future?

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Solid-state microwaves (SSM) are a new development that may rival the traditional magnetron microwaves that we are currently familiar with.

One of the biggest challenges with heating food with microwaves are the hot and cold spots created by the relatively fixed-frequency of magnetron generated microwaves. The intrinsic properties of the food itself also impact on the uniformity of heating e.g. different size, shape, salt content and product layout. SSMs have the potential to provide more uniform heating using technology from the telecommunications sector. SSMs can change their microwave frequency and phase to reduce hot and cold spots and can also assess energy within the cavity based on feedback sensors, although research is still required to independently validate this technology and the claims.

A new member-funded project will study a solid-state microwave as it heats model food products to investigate:

- how uniform the heating is
- whether uniformity can be further improved, and
- the consistency of the power output over the short term.

More complex real food products will also be investigated later in the project. This investigation will include whether product quality is improved post-heating. ■

Get in touch to find out more about this technology and how it may help you.



Left to right: John Carter, Steven Walker, Alec Kyriakides and Sarah Bradbury



Exhibits



Pilot plant tour with Rachel Gwinn



Peter Burgess presenting the consumer briefing

Campden BRI day podcast

We are delighted that the 41st Annual Campden Lecture was a 'triple bill' - featuring two member companies which, along with us, are celebrating their centenary this year. Sarah Bradbury (Group Quality Director, Tesco) and John Carter (Vice President Quality EDP, Danone), joined our chief executive, Steven Walker, to give their perspective on the past, present and future of the industry. You can download a podcast of this triple bill lecture from our website.

As well as showcasing over 40 science and technology exhibits and the opportunity for visitors to tour our pilot plant, we ran briefing sessions on:

- microplastics in beverages: status update
- food and drink regulation in a changing landscape, and
- innovation and the adventurous consumer ■

Search 'CBD' at campdenbri.co.uk to listen to the podcast of the lecture and see the exhibits

Imaging for product quality

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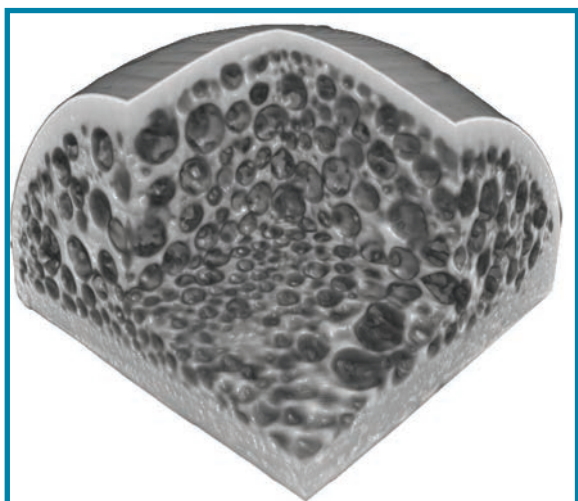
Believe it or not, different sized bubbles taste different, so understanding how they've formed in a food product is crucial when developing new products, benchmarking and troubleshooting. This is just one of the areas in which X-ray CT scanning is providing unparalleled insight and data.

Conventional imaging techniques generally produce 2D images of the surface, or a cross-section of a sample. Unfortunately, these methods are labour-intensive, sample destructive and provide limited detail.

X-ray CT overcomes these pitfalls - it is a technique that allows internal food structure to be visualised and measured to give important insights into such foods as bread, chocolate, cake and biscuits.

A team at Campden BRI has been investigating this technology with our members to understand how it can be applied to different foods to measure (and so help improve) quality. ■

Get in contact to discuss how this technology can help you.



Structure and physical properties of foods

www.campdenbri.co.uk/services/physical-properties.php

Analyses

Vitamin analysis

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Vitamin analysis is not always straightforward as there can be several molecular forms of the same vitamin. Vitamin A, for example, is expressed as retinol in meat but carotenoids in plants. For this reason, a thorough knowledge of their chemistry is needed to use the correct method for their determination.

We have developed robust and reliable analyses for a wide range of vitamins in many food matrices. With our extensive background knowledge and the latest technology, we can help you design projects and choose which vitamins to test for in a food, drink, raw materials or ingredients. ■

Get in touch to find out more about our vitamin services.

Inulin, fibre and sweetness

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Inulin has attracted a lot of interest both as a component of dietary fibre and as a source of fructan-based sweetener. Analysis of inulin (and derived fructans) is important from both perspectives. We have recently developed and validated an improved method for the measurement of inulin in a wide range of products including chocolate, honey, wholegrain breakfast drinks, smoothies, protein bars, and fructan sweetener ingredients.

We are the only laboratory that conducts this analysis in the UK, so the method is an important part of our analytical support to members and other clients. It is also an important aspect of our project on calorie reduction through fibre enhancement (see January newsletter) which is exploring the value of inulin for this purpose.

Search 'rss' at campdenbri.co.uk to see the related research summary sheet

Training and events

A full list of scheduled courses is available on our website www.campdenbri.co.uk/training.php or you can contact us to request a brochure or discuss tailored training options: training@campdenbri.co.uk +44(0)1386 842104

Training that's changing the industry

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"The bespoke training that Campden BRI was able to offer us has been invaluable and will continue to help move our business forward in the future."

We all know tailored clothing fits so much better without unnecessary material getting in the way, so why treat your training any differently? Make training fit around you and resolve specific needs and production challenges in a friendly open environment. Major manufacturers are doing this and benefiting from the results:

"...we were able to redesign our production processes and reduce our pastry waste by around 40% on one particular product."

Have us come to you!

We understand that off-site training can be disruptive. Travel cost, accommodation costs and being away from the workplace - they all add up. Save on cost and time with our personalised in-house training, where we come to you.

Many of our members are benefiting from this approach. Don't get left behind. It's easy to arrange and often better value in the long run. ■

Contact us to discuss your requirements and how tailored training can help you.



Skills and knowledge

Seminars

Current challenges and issues in the meat and poultry industry 9 October 2019

www.campdenbri.co.uk/meat-industry-challenges.php

Whether it be the changing market place, the ever-looming threat of disease outbreaks, or consumers' attitudes to meat, those within the industry must be aware of the many issues that may arise. Attend this seminar to hear key speakers delve into these issues and more so you can best prepare for them.

BRC packaging standard (issue 6) - briefing 15 October 2019

www.campdenbri.co.uk/brc-packaging-v6-seminar.php

From 1 February 2020, companies will be audited against a new issue of the 'BRC global standard for packaging and packaging materials', so it's important to understand what will be changing. This seminar will cover the changes including what your business will have to do to comply. ■

www.campdenbri.co.uk/training.php