

Brewing spoilage

- rapid microbial methods

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Beer is relatively microbiologically stable. Brewers are mostly concerned with spoilage organisms such as anaerobic bacteria and fermentative yeast species.

Rapid technologies have been developed to enable brewers to act more quickly on microbiological issues. Many of these are DNA-based and employ polymerase chain reaction (PCR) to amplify a specific DNA target sequence which then allows detection of the target organism. In the last few years there have been developments to simplify result interpretation and minimise sample handling. A disadvantage of this technology is that there is no differentiation between live and dead cells so false positive results are possible.

Rapid detection of organisms present in beer can also be done using other techniques, such as micro-colony counting. Alternatively, live cells can be detected by methods employing "in situ hybridisation", the binding of labelled DNA probes to a target RNA sequence. Another innovation is Matrix-Assisted Laser Desorption/Ionisation Time of Flight Mass Spectrometry (MALDI TOF MS) which is now also available for rapid identification of microbes. This produces a species-specific fingerprint that can be used to identify the microbes. ■

Get in touch to find out more about services for the detection of beer contaminants.



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Support service

Global regulatory affairs - expansion

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We have welcomed four new food law advisers to our global regulatory affairs team as part of the ongoing expansion of our labelling and regulatory support services to meet the global needs of members.

Christine Martin has joined us as an UK/EU harmonised regulatory advisor on food legislation. Dörte Mang advises on German speaking countries - Germany, Austria and Switzerland - and Stella Chrysalidou will cover food legislation in Greece, Cyprus, USA, Australia and New Zealand. Further expertise comes from Sophia Makiadi who will provide support on French speaking markets including France, Belgium, Luxembourg and Canada. ■

Our global regulatory team can cover over 80 markets. If you require global regulatory advice please get in touch

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

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New members

We are delighted to welcome the following new members:

- Alkemista - drinks innovation company
- Braehead Foods Ltd - producers of wild game
- Glacies Ltd t/a Pops - ice lolly marketing brand
- Gozo Deli Ltd - manufacturer of goat-style cheese made from cashews
- Herbalife Europe Limited - distributor of health and wellness products
- Maxi-Enzyme (UK) Ltd - beer line cleaning equipment provider
- Moira Mac's Poultry and Fine Foods Pty Ltd - poultry processing company
- Phytone Ltd - manufacturer, blender and packer of natural food additives
- Rude Health - food brand selling cereals, dairy alternative drinks, rice crackers and oat cakes
- Simtom Food Products Ltd - manufacturers of cooking sauces and chutneys
- The Stanilod Group - importers and suppliers of herbs and spices
- Tree of Life UK Ltd - wholesale and distribution of natural and organic products

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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.



News

Baby Quality Food Awards launched

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The new Baby Q Awards have been launched in partnership with Campden BRI. The awards will celebrate the best products available for babies from six months up to two years old. The partnership with Campden BRI will ensure that the judging values, rigour and transparency will be upheld in this new addition to the Quality Food Awards. The winners will be announced in November 2018. ■

Find out more:

<http://localshop.qualityfoodawards.com/qfa2018/en/page/baby-q>



New club project to assess ultraviolet treatment of materials entering high care areas

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We are inviting companies to join a club project to provide validation guidance and independent data for ultraviolet (UV-C) treatment for a range of different materials as they are transferred from low risk to high care areas. UV-C is a non-thermal, non-chemical technology to inactivate microorganisms, based on UV light.

The project will generate:

- Independent microbial reduction data for a range of relevant materials
- A method to validate processes using surrogate organisms
- A method to map UV-C exposure to ensure targeted dosages are achieved ■

Find out more about the project here or get in touch:
www.campdenbri.co.uk/pr/UV-C-treatment.php
more club projects listed on page 7

New release

Insider threat - food for thought

Food defence is part of the updated BRC Global Standard for Food Safety Issue 8, which will be released in August. A counter-terrorism security advisor from Avon and Somerset Police provided insight to the threat of terrorism to food businesses at our most recent Quality and Food Safety Management MIG, which attracted a capacity audience.

Internal security levels and procedures should be linked to the UK terrorism threat level set by MI5, although the food industry is more likely to face domestic extremism from individual groups. However, the biggest security risk is disgruntled employees motivated by financial gain or ideology. Food companies can protect themselves by establishing personnel security risk assessments, robust pre-employment screening, ongoing security measures (to deter and limit opportunity) and a strong security culture. Companies need to identify the critical parts of their business and protect them. They should create a crisis plan, know it and exercise it, for example what to do in the event of a site closure, a supplier closure, or if there is an attack on their brand. ■



BRC issue 8 briefings - starting in September

www.campdenbri.co.uk/brc-v8-seminar.php

See more details on p8

Cereal quality and functionality

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www.campdenbri.co.uk/research/quality-safety-cereal-ingredients.php

Cereals such as barley, oats and wheat are used in a wide range of products, often as the main ingredient. The quality and safety of cereal-based raw materials, ingredients and products is important, as are reliable, standardised methods across the industry to support quality and safety.

Our Cereals and Cereal Applications Testing Working Group (CCAT) provides a forum for all industry stakeholders to discuss:

- Standard methods for the testing of wheat and flour, including relevant ingredients and additives
- Evaluation of new techniques and methods for measuring aspects of cereal or ingredient quality, functionality or fitness for a particular end-use
- Evaluation of new techniques and methods for measuring the quality of baked products

CCAT has been in existence since 1950 and is co-steered by the Cereals, Milling and Baking and the Fermented and Alcoholic Drinks MIGs (member interest groups).

CCAT produces a manual of methods for the main cereal and flour testing methods as well as methods for specific cereal product testing. The methods are free to members and are available to download individually from our website. CCAT has recently launched a grain quality and safety bulletin, including updates to testing methods. The bulletin is available free to members.

Currently CCAT is reviewing rapid assays for mycotoxins and working on a breadcrumb resilience testing method.



New standardised method for batter preparation

Batter viscosity is frequently measured in the cereal industry, but there is no standard procedure to perform these tests.

We have recently published a standardised method for batter preparation in RD438 *Investigation of factors affecting viscosity measurements of batter systems*. Research we carried out determined some of the factors that influence the viscosity of water/flour batter systems, and we then used an optimised procedure to test flours with a flow cup and rotational viscometer. The research found that the viscosity of simple flour/water systems was heavily dependent on the ratio of flour to water. The results also showed that batter behaved in a complex way, changing with rest time and displaying time-dependent shear-thinning behaviour. This makes it difficult to suggest the best time to measure batter viscosity after mixing - a suggested compromise may be to test the viscosity straight after mixing. Other factors such as batch size, type of mixer attachments, speed and duration of mixing were also found to be important when using more sensitive methods of viscosity measurement.

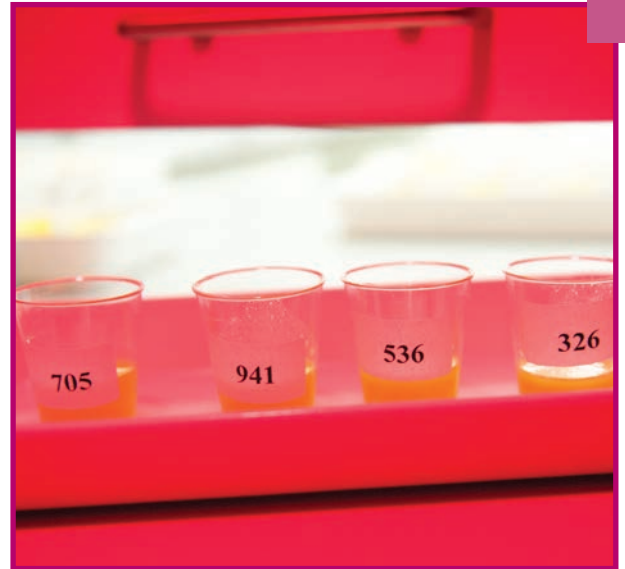
This was part of a member funded research project on the quality and safety of cereal-based products and ingredients for the food and brewing industry.

Get involved

Campden BRI members can join the CCAT group, which brings together primary producers and processors with their suppliers. Its work has been supported by member-funded research projects for over a decade. If you want to find out more about CCAT get in touch, the next meeting is 1 November 2018. ■

We are a leading authority on wheat and wheat products

www.campdenbri.co.uk/services/baking-cereal-technology.php



Comparing discrimination methods: Triangle vs Tetrad

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The Triangle test has been long established in the food industry to pick the 'odd one out' of three samples, as a means of measuring the impact of an ingredient or process change on the overall sensory character of a product. A newer method, the Tetrad test, is similar but four samples are presented instead of three and assessors are asked to form two groups of two samples based on similarity. A Tetrad test can require fewer participants.

We carried out a study (with 29 participants) to determine whether Tetrad testing could be an alternative to Triangle testing, whether Tetrad testing is applicable for testing different product types and if fewer assessors are required for a Tetrad test.

Four product types were selected for testing: biscuits, ready meal sauce with rice, juice and soup. No obvious differences were found between the Triangle and Tetrad tests so Tetrad testing could be used an alternative to Triangle testing. ■

Get in touch to find out more about discrimination testing methods.

Member zone

to access privileged member information and services

New research

Effect of waxy maize starch on the quality and shelf-life of cakes

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An R&D report (R&D439: *Investigation of the effect of waxy maize starch on the quality and shelf-life of gluten-free cakes*) looking at quality and functionality of cereals has recently been published. Waxy maize, like waxy wheat starch, has unique functional properties such as low pasting temperature and high water adsorption capacity. Baking trials found that when using waxy maize starch instead of normal maize starch:

- cake volume increased
- cake crumb structure was finer
- more moisture was retained during storage of the cake
- cake firmness decreased ■

Read more about our research taking an ingredient functionality approach to shelf-life extension of foods at www.campdenbri.co.uk/research/ingredient-functionality-shelf-life.php



Advances in online packaging integrity testing

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Packaging failure incidents often go unnoticed due to their tendency to affect a large number of packs in a short amount of time, with sample based methods often being too slow.

Common methods used in industry to test packaging integrity include can seam assessment, creep (inflation), intrusive gas analysis, bubble and penetrant dye test methods. All of these methods are destructive, offline measurements, which can be time consuming, have limited sensitivity (depending on the test) and are unable to assess all packs leaving the factory.

Non-destructive online testing systems are now a reality for packaging manufacturers thanks to advances in technology over the last ten years. Some detection methods are slower than the rate of production, in this instance systems are being implemented with multiple testing chambers to maintain line speeds. Online systems could offer greater reliability and cost efficiency by improving the rate of testing and reducing the requirement for operative intervention. ■

Read more about the developments of online detection systems for assessing package integrity in the new technologies bulletin (free to members) - www.campdenbri.co.uk/membersonly/new/newtechmenu.php

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Members have access to exclusive content on the Campden BRI website

www.campdenbri.co.uk/memberzone.php

Campden BRI Day

6 June

www.campdenbri.co.uk/campdenbri-day.php



In the 40th Annual Campden Lecture, **Ilan Wright**, Chief Executive of the Food and Drink Federation, addressed the theme 'A whole new world: food and drink after Brexit', describing some of the forthcoming challenges and highlighting why

providing the nation with food must be a national priority. You can download a podcast of the lecture from our website.

As well as over forty science and technology exhibits and the opportunity for visitors to tour our pilot plant, we ran briefing sessions on new methods for detecting foodborne pathogens, food fraud in relation to import/export, and the forthcoming changes to the BRC Global Standard for Food Safety. Slides from these presentations are on the website.



Ecotrophelia 2018

www.ifst.org/ecotrophelia

The food innovation competition for students, organised jointly by Campden BRI and IFST to promote careers in food and drink, was won by a team from the University of Nottingham. The team will compete in the European finals later in the year. ■



Club opportunities

Club projects

www.campdenbri.co.uk/research/clubs.php

Club projects are a time and cost efficient way of effectively tackling issues within industry. Campden BRI has developed several industry club projects covering a range of topics.

Bread softness club

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The club will research and develop better ways to create and maintain bread softness - by understanding and controlling the factors that influence bread texture. ■

Chlorate levels club

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The levels of chlorates in crops are of prime importance due to legal limits that are being introduced through EU legislation. The club will investigate approaches to reduce chlorate levels in agricultural production and processing. ■

Chocolate and confectionary club

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The club will evaluate viable routes for sugar and fat reduction in chocolate and related products as well as the exploration of new techniques for the assessment and potential mitigation of moisture and fat migration. ■

Oxidative rancidity club

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The club aims to explore a rapid technique to monitor the oxidative stability of a range of oils and compare it with currently used technology. ■

We also plan to launch a kombucha club and virus control club later this year. Companies that participate in the club projects have the opportunity to steer the project work, and project results are shared amongst the project members who can exploit the findings. ■

Training and events

A full list of scheduled courses is available on our website www.campdenbri.co.uk/training.php or request a brochure from training@campdenbri.co.uk +44(0)1386 842104

Experts at events - IFT18

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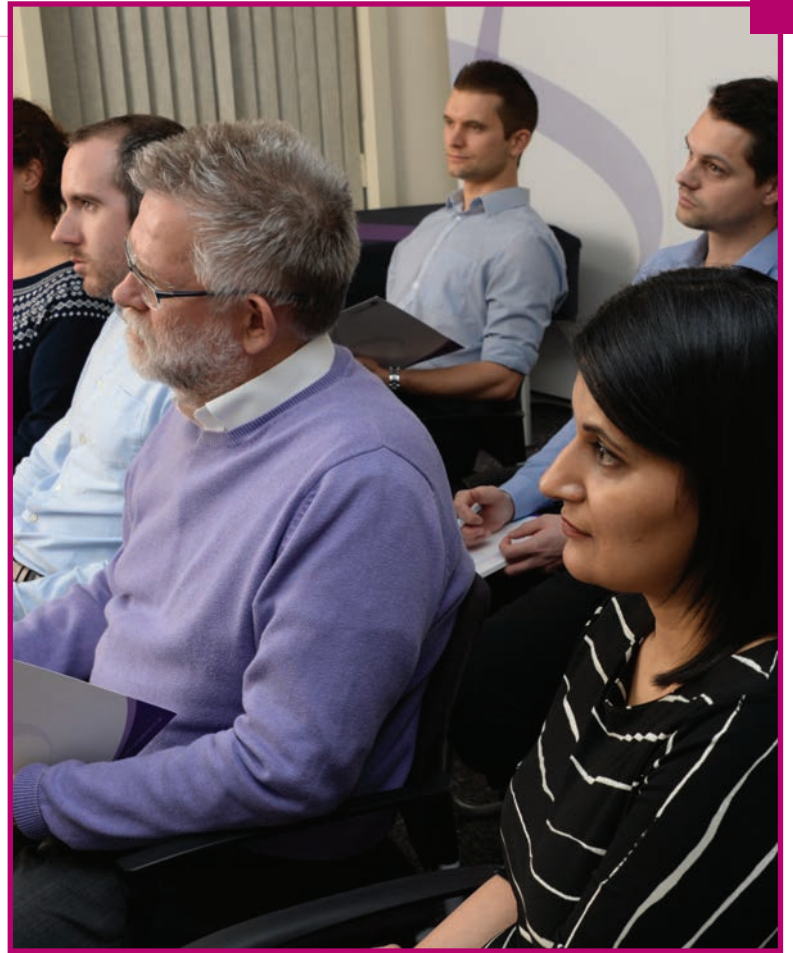
We will be attending IFT (Institute of Food Technology) conference in Chicago 14-17 July.

We are taking part in two student competitions at the conference to encourage and engage students in careers in food and drink.

Bertrand Emond, Head of Membership, will again act as a mentor in the IFTSA (Institute of Food Technology Student Association) Global Challenge. The challenge asks students to think creatively and critically about global food issues using the resources offered by the IFT 2018 conference. The teams receive guidance from industry mentors and an opportunity to network with food industry leaders

We also sponsor the IFTSA thesis video challenge which encourages students to hone and creatively develop their scientific communication skills. Students are asked to produce a fun, creative three-minute video related to original research carried out during their post-graduate studies. The winner will be announced at the IFT closing ceremony on 17 July. ■

Meet our experts at booth S2040



Skills and knowledge

BRC issue 8 briefings - starting in September

www.campdenbri.co.uk/brc-v8-seminar.php

Issue eight of BRC Global Standard for Food Safety is due to be released in August and companies will be audited against the new standard from February 2019. These seminars provide a timely opportunity to hear about the many changes to the standard and what your business will have to do to comply.

Attendees will be given an overview of changes and protocol by BRC technical director David Brackston, as well as learning about the environmental monitoring and food defence clauses from Campden BRI food safety management system expert Richard Leathers. Bertrand Emond, Campden BRI, will talk about the food safety culture requirements in the new standard and delegates will have the chance to put their questions to the presenters. ■

Seminar dates 2018: Friday 7 September, 21 September, 19 October or 16 November

www.campdenbri.co.uk/training.php