

Mitigating food fraud - new technology

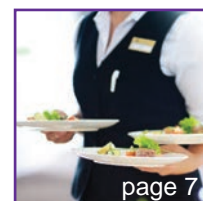
stephen.garrett@campdenbri.co.uk
+44(0)1386 842175

Food manufacturers and suppliers need to minimise the risk of purchasing fraudulent or adulterated food raw materials and ensure that all product descriptions and claims are legal, accurate and verified. For those working to BRCGS Global standard for food safety, these are explicit requirements of the standard.

In addition to supply chain vulnerability checks, there is often a need to test high-risk raw materials and ingredients for adulteration or substitution - for which there are many analytical approaches. However, interest is growing for simple and rapid screening technologies that have the potential to be used in-house.

One of our member-funded research projects investigated the use of screening methods to check the authenticity of a spice material. The project specifically demonstrated how a highly portable near-infrared spectroscopy device could be used to scan batches of ground ginger. A simple plant DNA screening approach was also developed to further investigate the potential presence of other plant adulterants in non-conforming batches. Our members will be able to use the results from this project to adopt similar screening practises, helping them control other types of high-risk materials. ■

Search 'mitigating food fraud' at campdenbri.co.uk to find out more about the project or get in touch to discuss how the approach might help you.





Proficiency testing in brewing - 25 years on

gordon.jackson@campdenbri.co.uk +44(0)1737 824255

This year marks 25 years since the Brewing Analytes Proficiency Scheme (BAPS) was launched jointly by Campden BRI and LGC PT.

But what exactly is it?

BAPS is an international proficiency testing scheme, designed to promote quality in the measurement of a range of chemical, microbial and sensory analytes in beer, and to help participants monitor and improve the quality of their measurements.

A survey of some of the participants in BAPS showed that the main uses of the scheme results were:

- **Comparison:** identifying tests where good performance is not achieved, compared to other participants in the scheme, enabling them to take action to improve processes and procedures
- **Training:** checking, for example, the performance of newly-trained staff
- **Subcontracting:** ensuring the results from the laboratories on multiple sites were aligned with each other and with the rest of the brewing industry, and
- **Compliance:** helping meet the requirements of standards such as the BRCGS Global Standard for Food Safety. ■

To find out more about the survey results, read the new blog - search 'blogs' at campdenbri.co.uk. For more information on BAPS go to the LGC website at www.lgcstandards.com.

Contact us

Campden BRI (Chipping Campden site)
Station Road, Chipping Campden,
Gloucestershire, GL55 6LD, UK
+44(0)1386 842000 Fax: +44(0)1386 842100

Campden BRI (Nutfield site)
Centenary Hall, Coopers Hill Road,
Nutfield, Surrey, RH1 4HY, UK
+44(0)1737 822272 Fax: +44(0)1737 822747

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

support@campdenbri.co.uk
www.campdenbri.co.uk



New members

We are delighted to welcome the following new members:

Agrin Maroc - processor of herbs and spices

Cherwell District Council - local authority

Cuisine Solutions Inc - manufacturer of ready meals

Enza Zaden UK Ltd - commercial seed sales company

Hook Up Food Ltd - manufacturer of a fish snack

Organic Farm Foods - supplier of fresh produce to supermarkets

SciTech Ingredients - developers of modulators

Select Bag Sealers Ltd - manufacturer of bag sealing equipment

Clare Brett +44(0)1386 842125
membership@campdenbri.co.uk

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.

For our latest news

Search 'news' at campdenbri.co.uk

Revised shelf-life evaluation guideline

linda.everis@campdenbri.co.uk +44(0)1386 842063

Establishing an accurate shelf-life is key to a product's success. The shelf-life should be sufficient to allow the product to be economically viable and minimise waste while maintaining key sensory, chemical and microbiological characteristics. It is therefore vital that the correct procedures are used when assessing shelf-life.

We teamed up with industry experts to update previous guidance on shelf-life evaluation, aligning it with recent changes such as the implementation of new EU microbiological criteria regulation and EU recommendations for setting a shelf-life. ■

This guideline is available to both members and non-members. To purchase a copy, visit campdenbri.co.uk and search 'G46'.

Experts on video

New packaging standard - what you need to know

richard.leathers@campdenbri.co.uk +44(0)1386 842105

The new global packaging standard (Issue 6) launched by BRCGS has changes that bring it in line with GFSI (Global Food Safety Initiative) requirements, industry best practice and the BRCGS Global Standard for Food Safety Issue 8.

Our food safety management systems lead, Richard Leathers, features in a video in which he highlights the changes that you may need to be aware of (especially as a packaging manufacturer, technologist or buyer) and how they may affect you. ■

To watch the video, search 'talking head' at campdenbri.co.uk

Do you find the terminology confusing? We have specialists on hand to help you understand the clauses of this new issue. Contact us to have your BRCGS packaging standard Issue 6 questions answered.



Farewell and thank you Steven

Our Chief Executive, Steven Walker, has announced that he is stepping down and will leave Campden BRI at the end of the year, after 33 years with the business.

Steven joined the then Campden Food Preservation Research Association in 1986, following his PhD in food microbiology. He very quickly established himself as the 'go to' person for all matters relating to *Listeria* and the microbiology of chilled foods. He was a leading light in the development of predictive microbiology, as a prominent member of a large industry-government consortium.

He became our first research manager in 1994 and Director of Research in 1996. Leading the research across the business he laid the foundations that, to this day, provide such strong member engagement in our R&D activities based on industry's scientific and technical needs. Following further director roles, in 2009 he became Director General and subsequently CEO.

Steven commented "*When we moved to England, I suggested to my wife that it would be for two years. But 33 years later I can reflect how I had the opportunity to develop my career through a range of roles, thoroughly enjoying working with colleagues in over 20 countries around the world. Campden BRI has a worldwide reputation as a centre of expertise and I am very proud to have been part of this.*"

Steven's readiness to share his expertise and wisdom has been greatly appreciated by both colleagues and clients and has played a significant part in the development of many individuals within the company and industry at large.

He will be succeeded by Chris Huscroft, our Chief Operations Officer.

Single-use plastic packaging challenges

lynneric.potter@campdenbri.co.uk
+44(0)1386 842237

With consumers becoming increasingly aware of the environmental impact of plastics that are discarded irresponsibly, manufacturers are seeking alternative materials. However, there is no clear route or single solution to this significant technical challenge. To implement alternative materials, we must first understand the issues surrounding them.

To help the food and drinks industry address this, we're currently running a member-funded project that is investigating how to reduce or replace single-use plastics for food and drink. Company visits and feedback from MIGs helped specify the most pressing challenges faced by businesses along the supply chain including packaging manufacturers, food and beverage manufacturers, packers, retailers, waste management companies, and also consumers. Issues ranged from food safety to material availability.

We've identified the top three common challenges:

I Functionality of alternative materials

Concerns over the functionality of alternative materials include meeting the barrier properties (such as the oxygen and moisture transmission rates), general strength of the material, clarity, sealing properties and integrity, and impact of high and low temperature exposure.

Collectively, these factors play a role in preventing spoilage, physically protecting the product from damage, and visibility of the product to consumers, as well as determining the compatibility of the product, process and packaging material. Some of these are likely to be compromised when an alternative material is introduced.



2 Cost

Specifically, the cost to manufacture and purchase alternative materials and whether this cost could be passed on to the consumer. Put simply, will consumers be able and/or prepared to pay more for a product if the alternative packaging costs more?

3 Shelf-life and food waste

Extending shelf-life can provide convenience and minimise food waste. When using any new material, shelf-life needs to be re-established. If using an alternative material, the packaging material itself may also need to be tested. Shelf-life of a product may include microbiological testing and quality checks but the same may apply to the material. Packaging functionality and abuse should be included for unexpected scenarios.



Ready meal packaging study

As part of our project, we tested the functionality and properties of alternative ready meal packaging materials (bagasse, paperboard and aluminium) alongside conventional plastic (CPET) in terms of container strength, integrity and barrier properties in different storage environments. Interestingly, drop tests showed that aluminium and paperboard trays performed better than the plastic trays.

We presented the results at our Packaging MIG meeting which provided members with an insight into the potential of these alternative materials. ■

Further case studies will be examined as the project continues. Have any ideas? Tell us what cases you would like us to study and help steer the project towards your needs. This article was adapted from a project blog that you can read in full by searching 'blogs' at campdenbri.co.uk



Q&A

The future of brewing

derek.orford@campdenbri.co.uk +44(0)1737 824228

Derek Orford joined us as head of brewing services earlier this year. He's brought with him 36 years of experience in the industry, so it's safe to say our master brewer understands the sector very well. We picked his brains during an interview to uncover the challenges and future of the brewing industry.

What challenges does the brewery sector face?

The challenges around sustainability continue to grow. These include reducing water and energy consumption and picking the right packaging materials. There's also pressure on all brewers to develop great-tasting no/low alcohol products as demand for these grows.

What are you looking forward to working on?

I've carried out a lot of reasonably successful new product development work in the past which is always interesting and fun; I want us to do more, and not just in beer. Kombucha is a particularly exciting area in which we are growing our expertise.

What does the future hold for this industry?

We are in a kind of golden age of brewing with drinkers looking for more flavour and authenticity, but less volume and generally less alcohol. There are many new entrants and competition is fierce. Brewers need to have the right know-how in beer science and operations to make high-quality products consistently and at the right cost. At Campden BRI we have the right expertise to help. ■

Derek is our primary contact for brewers, both large and small.

Member zone

to access privileged member information and services

New member-funded research projects for 2020

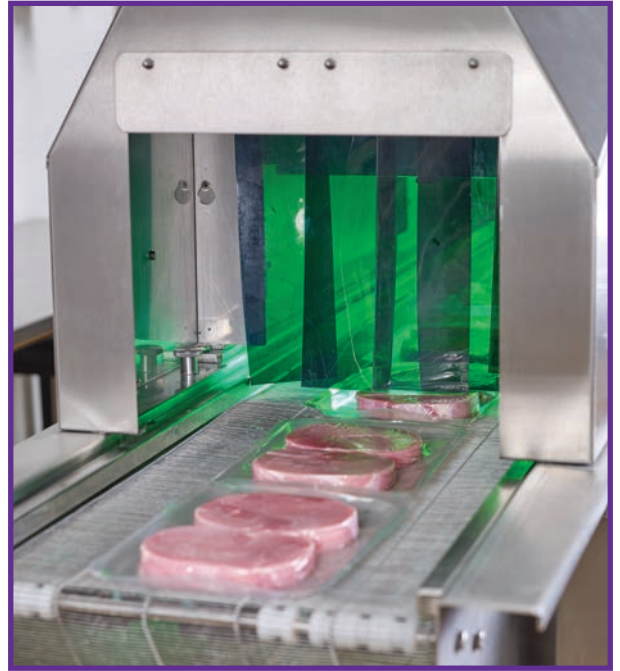
craig.leadley@campdenbri.co.uk +44(0)1386 842059

Each year our members decide how we should invest over £2 million of their membership fees on research that can help their companies succeed. Twenty-three member-funded research projects are ongoing and this year our members have chosen the following new projects to complement them:

- Better factory hygiene: microbial population dynamics in food factories
- Bridging the gap between objective measurements and sensory perception
- Consumer acceptance of new and emerging ingredients
- Demonstrating control of *Listeria* within ready-to-eat foods
- Quality and safety of cereal-based products and ingredients for the food and brewing industry
- Reuse of packaging
- Technologies for detection of foreign bodies and internal defects
- Vegan / vegetarian foods - help with the challenges

6

This complements a wealth of research funded by individual companies, groups of companies and government funding agencies. These will all be listed in Research Programme 2020, to be published early January. ■



Investigating 3D printing of food - R&D 458

craig.leadley@campdenbri.co.uk +44(0)1386 842059

3D printing technology is attracting interest in the food industry as a way of creating unique shapes and structures and allowing late customisation of foods. We recently completed an in-depth study on 3D printing of food in which we looked at its potential benefits and current limitations.

We've published the results in a report that's free and exclusive to members. Visit our project webpages to find out more about the project or get in touch if you would like to discuss how it could help you.

Interested in becoming a member?

Some of the benefits: easy access to experts, networking, discounts, privileged access to member funded research and keeping up to date

Get in touch with our Membership Team

www.campdenbri.co.uk/memberzone.php

Meet a MIG - Food Service

In the sixth instalment of our Meet a MIG series, we take a look at the Food Service Member Interest Group. Members include contract caterers, restaurant and catering chains, pub chain operators, public sector organisations, institutional caterers, equipment manufacturers and foodservice suppliers. Most attendees at meetings are actively involved in technical, quality and safety management.

As with all MIGs, Food Service MIG members like to discuss the issues of the day, listen to the latest in legislation from our regulatory affairs team, steer and participate in Campden BRI research and hear presentations from relevant industry speakers. They also enjoy getting out and about - most of our Food Service MIG meetings are held offsite at member companies or relevant institutions. You could say they enjoy a movable feast - unsurprisingly.



The current chair of the MIG is Ashleigh Moore from Greggs, who has been attending the meetings for 15 years. We asked her what she gets out of MIG membership. She said: *"I love the networking and the open discussion we have in our group - from both the familiar and new faces - we are all addressing similar issues and there is no better forum for informal support and discussion."* ■

Want to get involved? To join the MIG, host a meeting, or for more information, just email migs@campdenbri.co.uk. Their next meeting is on 23 January and yes, we're on the road again.

Blogs

Search 'blogs' at campdenbri.co.uk

Baking with enzymes to optimise processes

gary.tucker@campdenbri.co.uk +44(0)1 386 842035

Small savings on manufacturing costs can make all the difference to whether a product secures a market or not. One way to save on costs is to use enzymes that make more efficient use of ingredients and resources.



In a new blog, head of baking and cereal processing Gary Tucker covers some of the ways enzymes can help optimise baking processes. Read the full blog to find out the three essential requirements for enzymes to work effectively and how changing legislation will have an impact on the use of these protein catalysts in food. ■

Rapid tool to establish shelf-life

linda.everis@campdenbri.co.uk +44(0)1 386 842063

Shelf-life is the time after production during which a food or drink product remains acceptable for consumption. For many products, setting a shelf-life requires an understanding of how microorganisms will survive or grow in the product under certain conditions to ensure it remains safe and maintains its quality.

In a new blog, Linda Everis discusses predictive modelling - a tool that can quickly assess the survival and/or growth of a microorganism under a range of temperatures, pH and water activities. She also covers how we used this tool to investigate how slight differences in shelf-life protocol impacted on a product's life. ■

Contact us to find out how our predictive modelling service can help you establish the shelf-life of your food and drink products. See page 3 to learn about our new guideline on shelf-life evaluation.

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

January 2020 courses

- 22-23 HACCP - intermediate (level 3)
- 22-23 Internal auditing - principles and practices
- 27-31 HACCP - advanced (level 4)

Upcoming seminar

E. coli STEC and *Salmonella* 27 February 2020

This seminar will look at the importance of keeping up to date with the latest detection methods and technologies for these virulent species. It is most suitable for microbiologists, food safety managers, scientific equipment and media manufacturers, hygiene teams, technical managers, retailers and foodservice professionals. ■

For more information, contact Sian Twinning: sian.twinning@campdenbri.co.uk or search 'training and events' at campdenbri.co.uk.

Starter training courses

Those new to the food industry, or changing roles to a less familiar discipline, will need foundation training in different technical areas. We run a number of courses designed to fulfil this role - these courses are also ideal for those in food companies whose role is not technical, such as administrative, accounts and sales staff.



Skills and knowledge

Knowledge

Guideline roundup

publications@campdenbri.co.uk +44(0)1386 842121

Our experts have been working closely with industry practitioners to ensure we provide the food and drink sector with up-to-date and relevant guidance. Here is a quick roundup of the guidelines we've published this year:

Guideline 65 - Risk evaluation and management of raw materials (Second edition) 2019

Guideline 72 - TACCP/VACCP Threat and vulnerability assessments: a practical guide (Second edition) 2019

Guideline 78 - Sampling for food safety - a practical guide 2019

Guideline 46 - Evaluation of microbiological shelf-life of foods (Second edition) 2019 ■

Search 'Guidelines' at campdenbri.co.uk for these and other guidance documents or get in touch to find out more.

www.campdenbri.co.uk/training.php