

## Understanding shelf-life with DNA analysis

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Our understanding of how microflora changes in a product during its shelf-life is incomplete - especially for spoilage organisms. We also do not fully understand the impact of naturally occurring microbes on any contaminating pathogens. Our new member-funded research project is using advanced microbial profiling (AMP) to improve our understanding and potentially extend the shelf-life of products.

We're using AMP (a powerful DNA technique) to re-evaluate microbial specifications for a range of chilled products and to analyse the effect that naturally occurring microflora has on the growth of pathogenic microflora.

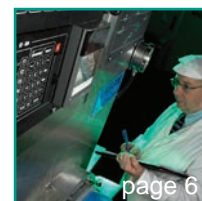
### Where are we now?

We're currently analysing data from challenge tests of smoked salmon to identify microbial population changes that occurred with the growth of *Listeria monocytogenes*. Next, we will investigate *Clostridium botulinum* in red meat. ■

Contact us to keep up with what we find. If you'd like to find out more about the project, visit our project pages. Discover more about shelf-life from AMP by searching 'R&D456' at [campdenbri.co.uk](http://campdenbri.co.uk).



# Newsletter





## New body of law

# The Status of “Retained EU Law” in the UK after Brexit

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As the UK prepares to leave the EU, the Government is converting most of EU law into a new type of domestic law known as “Retained EU Law”.

The European Union (Withdrawal) Act 2018 (EUWA) repeals the European Communities Act 1972 (ECA) effective on “exit day” (31 October 2019). In so doing, it removes the domestic constitutional

basis for EU law having effect in the United Kingdom. However, this does not mean that EU law is of no consequence to the UK after this point. The EUWA also provides for the retention of most of that law, as it stands on exit day, by “converting” or “transposing” it into a freestanding body of domestic law. The intention of this is to provide legal certainty in the period immediately following EU exit, by (in effect) adopting a rulebook and set of institutional arrangements that is initially as close as possible to that which currently exists.

This new body of law is called “retained EU law” and will replicate several different sources of EU law as domestic equivalents. In practice, for example, this means (broadly) that the UK will retain EU regulations, decisions and tertiary legislation and elements of the EEA agreement as they existed on exit day, but the UK is specifically not retaining the principle of supremacy of EU law. ■

## Contact us

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For other sites, see  
[www.campdenbri.co.uk/campdenbri/contact.php](http://www.campdenbri.co.uk/campdenbri/contact.php)

[support@campdenbri.co.uk](mailto:support@campdenbri.co.uk)  
[www.campdenbri.co.uk](http://www.campdenbri.co.uk)



## New members

We are delighted to welcome the following new members:

Hatch Brothers Ltd (Genesis) - bakers of breads and cakes

Moorhead & McGavin Ltd - importers/packers of pulses, beans and rice

Plant-Ex Ingredients Ltd - manufacturer of natural food colours and flavours

Sága Foods Zrt - producer of meat products

Speciality Paperboard Containers Ltd - suppliers of paperboard lids/containers

Wholebake Limited - manufacturer of cold pressed bars

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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.*

## For our latest news

Search 'news' at [campdenbri.co.uk](http://campdenbri.co.uk)

## Are you ready for BRC packaging Issue 6?

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In last month's newsletter we gave you an overview of the main changes in BRC Global Standard for Packaging - Issue 6. In response to these changes, we're launching a new service that will help you prepare for auditing against the new standard. As part of this service, our packaging technologist Anna Kiryla will visit your company and advise on how to implement the changes. ■

Auditing against the standard begins on 1 February 2020, so now is the best time to get in touch



## Helping with Innovate UK funded project

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We're currently working on a project that received a £650,000 grant from Innovate UK. We've partnered with baked goods manufacturer Everfresh and thermal processing technology provider Holmach to investigate the applications and nutritional value of sprouted grains. The research will help industry improve the nutritional qualities and shelf-life of baked goods using sprouted grains and pasteurisation. As a direct result, Everfresh is developing a number of new products. ■

Are you considering submitting a project proposal to Innovate UK? As a trusted technical partner, we can provide you with technical input and help you secure funding. Contact [support@campdenbri.co.uk](mailto:support@campdenbri.co.uk) to find out more.

## Trade press round-up

Our experts regularly contribute technical and topical industry articles to food industry publications. Here are some of the recent issues they've covered:

### [Technical challenges with reducing or replacing single-use plastics in the food and drink industry](#)

Baking Europe - Lynneric Potter

Lynneric Potter highlights that there isn't one single solution or clear route to reducing the amount of plastic we use (or replacing it).

### [BRC Global Standard for Packaging and Packaging Materials Issue 6](#)

Food Manufacture - Richard Leathers

In this article, food safety management systems lead Richard Leathers provided a brief overview of the main changes in the new packaging standard.

### [Rapid confirmation and identification of \*Campylobacter\* in foods](#)

rapidmicrobiology.com - Julie Archer

An unusual species, this fragile but virulent pathogen has attracted much media attention over the years. Julie covered the methods of confirming and identifying it - from the time-consuming traditional methods to the rapid MALDI-ToF technique that we use at Campden BRI today.

### [A new way to sterilise packaged foods](#)

Food Spark - Andrew Bosman

In this article, Andrew covered the benefits of continuous microwave processing including an example showing how it could improve the quality of pea and ham soup.

### [3D-printing of food - the future of food production?](#)

British Baker - Gael Delamare

At Campden BRI, we're investigating the potential of 3D-printing of food. In this article, Gael details the further applications of this burgeoning technology. ■

If any of the topics interest you, please email [paul.figg@campdenbri.co.uk](mailto:paul.figg@campdenbri.co.uk) for further information



## Connecting with consumers - how do we do it?

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Today's consumers want options but can be overwhelmed with too many choices. They look for uniqueness but not something that's too different. They want premium quality products but prefer to buy value. New product development is not getting any easier!

Creating and delivering innovative products in a fast-paced market with conflicting consumer demands is not easy. Which is why our approaches to rapidly understanding the consumer have become critical.

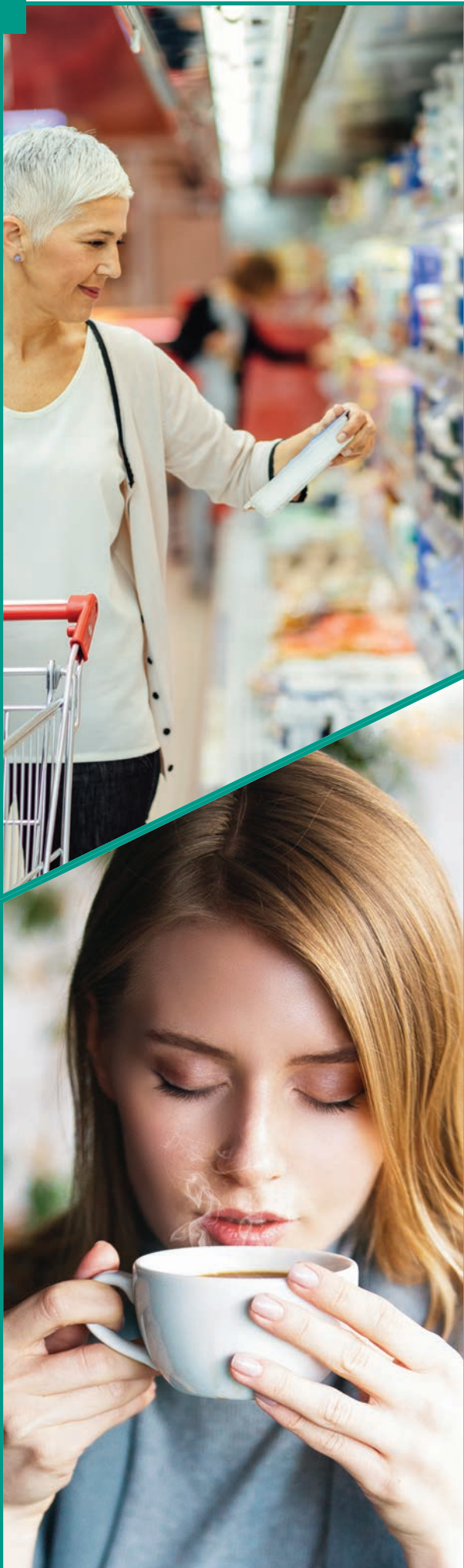
### Developing the optimal product

We've developed approaches to suit the needs of clients and the challenges they face. Our rapid, lean and agile practices generate fast, actionable and accurate information to guide product development and innovation teams to understand consumer needs, develop a product idea, finalise a product design and sustain product interest.

### Understanding your consumers

Who are your consumers and what do they want? Our consumer and sensory science team deploys a range of powerful tools to help you:

- **develop an in-depth understanding of consumer requirements** - what is really wanted in a product category? For example, we've successfully used consumer co-creation sessions to identify winning novel ingredient concepts for a leading fruit juice manufacturer.
- **identify your target market** - we can characterise the consumer segment that has the greatest return on investment for your product. Using advanced segmentation tools, we've identified groups of consumers in an overseas market that were most receptive to our client's dairy product range to help with further product development and market positioning.
- **understand the competition** - we can identify those who compete most directly. For example, we've recently created a competitor landscape based on sensory product profiles for a global confectionery client and linked these profiles to consumer segments.



- **formulate the value proposition** - we can identify how your product differs from competitors' and which attributes your product must have, which attributes really delight your consumers and which are the 'nice-to-haves'. Working with a cheese producer, we identified the 'ideal' sensory attribute profile that would optimise their product's appeal to the consumer.
- **understand the product experience** - does the product live up to its intended market positioning? Does the brand, packaging and product align to create a coherent user experience? To help with packaging redesign we've recently identified the impact that packaging has on product appeal for a range of tea products.

Every year we help members to develop and evaluate thousands of concepts, prototypes and products using a wide range of established and emerging qualitative and quantitative consumer and sensory science methods. Our approaches have supported project teams throughout the supply chain and in numerous sectors including bakery, confectionery, dairy, ambient, produce, alcoholic and non-alcoholic drinks, and even in non-food areas.

### Research: claims and consumer insights

A new member-funded research project focuses on the impact of sensory claims on consumers' purchase decisions. It will provide members with insights into if/why sensory claims are seen as credible, meaningful and valuable and their impact on consumer behaviour. It will help our members answer questions such as "What impact will my claim have on the consumer's pre-purchase decision making?" Come to our sensory and consumer MIG meeting to get the latest on this project.

### Improve your product development

We actively help members improve their processes through training. Whether you need an introductory session to new product development, a 'deep dive' into specific approaches, or advice and guidance, we provide scheduled and tailored training to help enhance new and existing product development initiatives. Search 'consumer and sensory science courses' at [campdenbri.co.uk](http://campdenbri.co.uk) to view upcoming courses. ■

Contact us if you would like to visit one of our test centres, or to find out more about what we can do for you.



## Understanding adventurous consumers

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Consumer food choices are increasingly shaped by health and environmental considerations along with a desire for transparency regarding ingredients and production processes. The market is responding with innovative products that focus on:

- plant-based and fibrous foods
- gut and microbiota health (kombucha, kefir, kimchi)
- transparency with 'clean label' food, and
- foods that promote a sustainable future

It is crucial that industry understands how receptive consumers are to innovation as this determines the likelihood of consumers purchasing their new products. We use 'food related lifestyle' segmentation as an approach to achieve this understanding. This approach gathers feedback from participants across a range of attitudes and behaviours towards purchasing, preparing and consuming food. We then use this data to identify the consumers who are likely to purchase products that, for example, include a novel ingredient or are produced through an innovative process. Coupled with advances in sensory segmentation techniques, the knowledge we gain from this helps guide product development, future testing and can speed up the innovation process. ■

Food trends are often changing. To ensure you stay on top of what is influencing your consumers' purchasing decisions, our team of sensory and consumer scientists can support you by providing detailed insights throughout the product development journey. Get in touch to find out more.

## Member zone

to access privileged member information and services

## Member-funded research projects - voting

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We'd like to thank everyone who has voted on the member-funded research projects for 2020 so far. For those who haven't, the voting deadline is 11 October. You'll find out which projects have been selected in the December newsletter. We'd also like to remind you of the MIGs LinkedIn group that we created to keep you up to date with the MIGs. The group allows members to network and discuss MIG content between meetings and you can use it to suggest ideas for future MIGs. ■

To join the group, contact Emma Burton

## Have you subscribed to our newsfeeds?

Newsfeed emails are a great way to stay up to date with topical content such as analysis and testing, food safety assurance and product development. If you're a member, then you also get free access to research reports, legislative and regulatory updates on food and alcoholic beverages.

Newsfeeds are delivered straight to your inbox and you shouldn't receive more than one email a day - so why not sign up? Don't forget to check your junk folder and add us to your list of safe senders. ■

Signing up is easy, simply visit the opt-in page and tick the topics of interest. You can register easily and your newsfeed preferences can be amended at any time.  
<https://www.campdenbri.co.uk/optin.php>



## Meet a MIG - Processing, Operations and Preservation

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Our Meet a MIG series continues with the Processing, Operations and Preservation (POP) MIG - a member interest group with a broad remit covering the operational aspects of food manufacturing from raw material intake to finished product. Members include producers, manufacturers, suppliers and retailers, so MIG meetings can include a wide range of backgrounds and viewpoints. All of which adds great depth to discussions and makes for excellent networking opportunities.

Which hot topics have the POP MIG been debating recently? Not surprisingly, it's an eclectic mix - the rise of veganism, sugar reduction, African swine fever, EU legislation on chlorates, plastic packaging, cured meat processing and reduction of nitrites, palm oil (sustainability and alternatives), the price of utilities and much more.

Current member-funded projects steered by this MIG include research into hygienic design, emerging ingredients, new technologies, rapid methods, and cleaning and disinfection of food factories. ■

Want to get involved? To join the MIG, or for more information, just email [migs@campdenbri.co.uk](mailto:migs@campdenbri.co.uk). The next meeting is here at Campden BRI on 30 January. Why not POP along?



## Blog spot

Search 'blogs' at [campdenbri.co.uk](http://campdenbri.co.uk)

### Texture analysis - are you getting it right?

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Crispy, crunchy, chewy, firm, soft - all appealing adjectives found on food packaging - but what's the importance of measuring how crunchy or how firm a food is? The main reason is consumer acceptability, however, they're also crucial factors for new product development and reformulation. Understanding how to measure texture can improve acceptance and therefore popularity of a product. But are you analysing your texture correctly?

A blog by food scientist Jo Baker-Perrett covers how to measure texture as accurately as possible to produce meaningful results. ■

Search 'blogs' at [campdenbri.co.uk](http://campdenbri.co.uk) to read it in full and find out how to improve your texture analysis.

Want to improve your food or drinks products? You can learn the background and theory of texture analysis, rheology, sensory analysis, colour and imaging plus much more by attending our training course. Search 'Product Assessment' at [campdenbri.co.uk](http://campdenbri.co.uk) to find out more.

### Thermal process validation - the challenges

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From pasteurisers to kettles, if you thermally process your products, you'll understand the challenges of getting these processes validated. However, doing so is vital to ensure you produce safe products every single time. It also opens the opportunity for process optimisation which, as our work at Campden BRI has found, is crucial for better preserving a product's nutritional and sensory attributes - essential to ensure consumer acceptance.

In a recent blog, thermal processing specialist David Whittaker covered the five key challenges that many manufacturers come across when validating their thermal processes. ■

Read the full blog to find out what they are and how you can overcome them. Search 'blogs' at [campdenbri.co.uk](http://campdenbri.co.uk)

## The importance of food colour

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Colour is one of the most important sensory aspects of food and drink. As well as indicating its likely freshness and flavour, it can also influence consumer choice and enjoyment of a product. However, some producers struggle to maintain the colour of their products over time, especially if they are clean-label or exposed to thermal processing.

In a new blog, food development technologist Dan Hall covers how and why we measure food colour. He discusses the method we developed to determine the colour stability of a client's product over a 65-day shelf-life trial. ■

Search 'blogs' at [campdenbri.co.uk](http://campdenbri.co.uk) to discover what we found.

Contact us to find out how we can help you optimise the colour of your food products.



### Can you define cake fluffiness?

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Consumers recognise fluffiness as an important parameter for cake quality. It's a term regularly used in advertising and on the packaging of cake products, often to make products sound more appealing. But, what does fluffy *actually* mean?

To put the question to rest, food scientist Jo Baker-Perrett investigated the factors that make a fluffy cake in order to define and subsequently build an equation around it. ■

Read the full blog to find out how Jo defines fluffiness and how this will help you develop new recipes and processes. Search 'blogs' at [campdenbri.co.uk](http://campdenbri.co.uk)

# Training and events

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

## November 2019 events

- 4-8 ~~FSSC 22000 auditor/lead auditor course~~ full
- 5 Sensory evaluation - an introduction
- 5 Hot topics in soft and fermented drinks\*
- 6-7 New product development
- 6-7 An introduction to food law
- 6-7 HACCP - intermediate (level 3)
- 7 Sensory evaluation - an introduction (Ireland)
- 8 Microbiology measurement uncertainty: meeting the new requirements for ISO 19036
- 11-15 HACCP - advanced (level 4)
- 12-14 Biscuit science and technology
- 12 Advances in food authenticity and microbiology: Do those genes suit you?\*
- 12 New product development (Ireland)
- 13 Sugar reduction in foods (Ireland)
- 13-14 Internal auditing - principles and practices
- 14 HACCP for craft brewers
- 18-22 Food safety - advanced (level 4)
- 19 Food additives, flavourings and enzymes: food improvement agents package
- 19-22 Safe production of heat preserved foods - the essentials (including principles of canning)
- 19-21 Wheat and flour quality for bakery products
- 20 Meat technology
- 21 HACCP - refresher
- 21 TACCP/VACCP (food defence and food fraud) - foundation
- 26 HACCP - foundation (level 2)
- 26 Safe cooking: process validation (Ireland)
- 26-27 ~~Food and drink labelling~~ full
- 27 Food authenticity testing and the detection of adulterants - insights into analytical methods
- 28 Root cause analysis
- 28 Vegan products - challenges and opportunities\* ■

\* Seminars



Skills and knowledge

## New virology course

Foodborne viruses: Norovirus, Hepatitis A, Hepatitis E - transmission, detection and control [Thursday 5 March 2020](#)

Foodborne viruses are known to be a significant microbiological hazard in various food supply chains. Understanding these viruses is an essential first step to keeping them under control and minimising the threat. To help you with this, our new course will cover topics including:

- the impact of foodborne viruses on the food industry
- foodborne virus transmission routes and incubation periods
- the potential for persistence of infectious viruses in and on contaminated foods and food production settings
- current detection methods (ISO methodology) and post contamination control strategies

Who should attend? Technical managers, inspectors and other relevant authorities who inspect fields, post-harvest processing plants and eating facilities. ■

Save the date, we'll see you there

[www.campdenbri.co.uk/training.php](http://www.campdenbri.co.uk/training.php)