

Newsletter

www.campdenbri.co.uk



Intelligent process and product design using new predictive tools

suzanne.jordan@campdenbri.co.uk +44(0)1386 842013

New member-funded research will help the food industry to address the combined challenge of extending product shelf life whilst reducing the preservation factors that control pathogens and spoilage organisms.

Building on our long standing expertise

One potential approach to achieve these goals is to develop products that use a combination of control factors. Product shelf life and stability are often evaluated using microbial predictive models, which give an indication of the impact of preservation factors and process measures on microbial survival. Whilst useful, these models can limit the number and combinations of preservation factors that can be included in a single search. This project will explore the use of molecular markers as novel tools that have the potential ability to enhance the prediction process using a holistic approach which is capable of evaluating multiple factors simultaneously. These unique tools will enable industry to determine the potential lethality of production processes and the controlling effects of food product composition, in an efficient way.

This research will build on our long-standing expertise in the use of mathematical models and in predicting shelf life of products and the lethality of production processes.

Investing in analysis and testing

We have invested £1.3 million in cutting-edge equipment over the last two years to ensure that we are able to support your business both now and in the future. Relevant, reliable and timely analytical results are essential for the industry for a wide variety of reasons - from checking shelf-life, safety and authenticity, to product development, quality assurance and ingredient functionality.

Our services span the microbiological, chemical and physical characteristics of foods, through to consumer and sensory analysis. We also offer comprehensive cereal, flour and dough testing as well as extensive facilities for characterising the properties of packaging materials.

But our service goes way beyond simply analysing samples. Our experts can help you identify your testing requirements and provide you with a meaningful interpretation of your results. Our services are underpinned by extensive method development, validation and accreditation.

We develop analytical test methods and have research projects underway to develop new methods and to improve the range or the reliability of existing methods. We encourage method adoption and standardisation across industry. Our proficiency schemes help you check that the tests you are using in-house deliver accurate results.

The food industry is dynamic, introducing new formulations and processes, and is subject to legislation that often requires the support of new analytical techniques. With current concerns over the authenticity and adulteration of foods, there is increasing demand for tests that detect both unknown and known contaminants. We will continue to invest in equipment to ensure that you have access to the latest and most powerful technologies.

Steven Walker

Contents

- 2 Investing in analysis and testing
- 2 Food and drink safety
- 3 News
- 3 Feature: Engaging consumers
- 4 Hazards and risk - let CHAS help!
- 4 Keep it clean!
- 5 Countdown to FIC at Campden BRI day
- 5 Sammies
- 5 Practical applications: Clubroot - effective heat treatment
- 6 Training and events
- 7 Member zone
- 8 New members

Food and drink safety

www.campdenbri.co.uk/sectors/food-drink-safety.php



Project website

Effective low aw food and environment decontamination and technologies

www.campdenbri.co.uk/research/decontamination-technologies.php

Dubai International Food Safety Conference and Exhibition

9-11 November. We will be there - come and see us!
www.foodsafetydubai.com

Risk assessment and management of raw materials

Campden BRI Guideline 65.

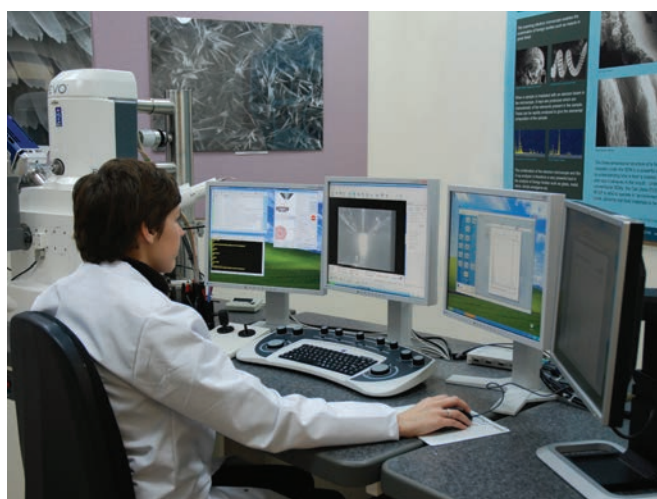
Price: members £60.00, non-members £90.00

www.campdenbri.co.uk/publications/pubs.php

Surrogates for process validation

Blog by Joy Gaze

www.campdenbri.co.uk/blogs/surrogates-process-validation.php



Improved residue analysis

nick.byrd@campdenbri.co.uk +44(0)1386 842187

Quaternary ammonium compounds (QACs) are widely used as surfactants and biocides in disinfectant preparations and in personal care products. There is a possibility that food in contact with cleaned and disinfected surfaces might pick up residues of these compounds. Two QACs - namely benzalkonium (BAC) and didecyldimethylammonium chloride (DDAC) - now have associated maximum residue limits (MRLs - levels per kg of food that should not be exceeded) and this has prompted the need for improved analytical methods.

A method that can detect residues of these at parts per billion levels has been developed using sophisticated mass spectrometry and is available as an analytical service.



A flavour of things to come - the Q-TOF has arrived

rob.levermore@campdenbri.co.uk +44(0)1386 842264

To ensure that we continue to provide cutting edge facilities for authenticity testing, analysing product changes over time and quality benchmarking, we have recently installed an **Accurate Mass Quadrupole Time of Flight Gas Chromatography Mass Spectrometer**. Amongst other things, this will allow us to quantify trace unknown compounds in complex matrices at much lower levels. It will significantly improve efficiency and the range of services we can provide in the area of instrumental flavour analysis.

This new instrument is creating excitement among both staff and member companies. We are currently exploring the full range of new capabilities the Q-TOF will provide. If you have an interest in how this can help your company then please contact us.

Engaging consumers

sarah.thomas@campdenbri.co.uk +44(0)1386 842254



When developing new product concepts or reformulating existing products and accompanying packaging, it is important that you know what your customers really want and like about the product and pack design.

We asked Sarah Thomas, Innovation and Insights Section Manager, how her team approaches this: *"First of all we listen to what the client is trying to achieve and then apply the most appropriate course of action in terms of recruitment of respondents, method of data collection and analysis."*

So what do you do about the product itself?

"We can screen product concepts, assess new or reformulated products in relation to competitors' products, and help define the ideal product profile from key drivers of liking and attribute intensity."

Designing products and packaging that engage with customers

How does the packaging come into it?

"As well as evaluating and screening pack design concepts we can measure consumer responses to different components of pack designs to identify which features are most important. For example, we can assess consumers' cognitive and emotional responses to on-pack images, product visibility, health and nutrition claims, brand statements and sensory descriptions. It becomes really interesting to compare data from product and packaging evaluations to identify whether the expectations derived from the packaging are delivered in the product experience"

How do you evaluate consumer attitudes and behaviour?

"Increasingly we use more implicit ways of capturing qualitative consumer attitudes and behaviour, such as eye tracking and Implicit Association Tests."

What are the advanced analytical tools that you mentioned?

"We have a range of methods and tools at our disposal. We use statistical approaches to manage complex numerical data sets, as well as inductive and deductive processes to analyse narrative and visual data, so that the client gets what is most appropriate for their needs."

Hazards and risks - let CHAS help!

julie.havery@campdenbri.co.uk +44(0)1386 842453

Food businesses need to demonstrate competence through recognised audits. The Campden BRI HACCP audit scheme (CHAS) is a means of strengthening due diligence regimes and satisfying customer requirements for an assurance of the appropriateness of their HACCP plans.

Independent HACCP expertise

CHAS helps businesses meet that brief by:

- Offering a practical independent third party assessment and certification
- Conducting regular appraisals of the HACCP plan
- Satisfying customers' requirements for verification
- Assisting in a due diligence defence
- Providing specialist knowledge

We hold wide recognition within the food and drink industry for our expertise in HACCP and are therefore well placed to provide companies with clear, accurate advice to assist with the implementation and maintenance of their HACCP plans.



Safety is the top priority of all parts of the food and drink supply chain - we can offer help at all stages



Keep it clean!

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

In order to ensure that food is safe and of high quality for the consumer, food processing areas have to be hygienically designed and properly cleaned and maintained. As the acknowledged leading experts in food hygiene, we can help you [design your factory](#) or food service area, and offer advice on the design of [equipment](#) within it, and how to arrange it!

But food factory hygiene is not just about factory structure, it is also about [cleaning and disinfection](#), optimising air movements and training of [personnel](#). All of these contribute to the ultimate goal - of maintaining a clean manufacturing environment and [minimising the risks of food contamination](#). And we can evaluate scenarios involving problem microorganisms in our [Microbiology Process Hall](#).

We offer the optimum combination of scientific expertise and food and drink factory experience, to deliver cutting edge services to industry. These are all supported by our portfolio of [food hygiene guidelines](#), which detail good hygiene practices and factory design. And we also help in other ways - as an independent cleaning chemical and [disinfectant testing centre](#), in undertaking [factory sampling and audits](#), and in a wide range of [hygiene training courses](#).



Countdown to FIC at Campden BRI Day

stephen.spice@campdenbri.co.uk +44(0)1737 824265

Like us, you might well be counting down the days to 13 December 2014 when the main transition phase ends and the new labelling rules found in the FIC (Food Information to Consumers Regulation) come into full effect. If you are coming along to Campden BRI Day on the 11 June, come armed with labels and questions, and visit us on stand KMI. Our expert advisors will be on hand and pleased to help out - so be sure to book an appointment with us. Whilst you are there you can have a go at our 'true or false' quiz to test your FIC skills and have a chance to win a bottle of champagne (correctly labelled of course!).

On a separate note, our one-day FIC training courses are proving popular and represent fantastic value. We can come to you and go through the latest on the FIC with you and your colleagues and give your business the best chance of being ready when the clock does finally stop ticking down. If you want more information on our bespoke training packages please contact me.



Sammies

linda.ward@campdenbri.co.uk
+44(0)1386 824015

We hosted the judging for some of the prestigious "Sammies" on 27 March 2014,

a series of awards organised and bestowed by the British Sandwich Association to determine the best sandwiches on the market. Judging attributes included their marketability, presentation, flavour and texture. The judges, including Linda Ward from our Department of Consumer and Sensory Science, gathered hundreds of sandwiches and wraps for sampling, with a range of breads and fillings. The awards ceremony was in May and the results are available at www.sandwich.org.uk

Practical application

Clubroot - effective heat treatments

joy.gaze@campdenbri.co.uk +44(0)1386 842064

Protecting crops against disease is extremely important in ensuring a secure supply of good quality raw materials for the food and drinks industry. Work carried out in conjunction with the Horticulture Development Council has shown which heat treatments will effectively protect against clubroot and other pathogens that may be present on plant propagation trays intended for re-use.

Clubroot is caused by the slime mould-like organism *Plasmodiophora brassicae* and infects the roots of brassicas such as broccoli, cabbage, Brussels sprouts and cauliflower. Once established in a field it is almost impossible to eradicate. It induces characteristic galls on the roots, which leads to poor growth and reduced yields.

The effectiveness of heat treatment of trays on clubroot prevention was evaluated. Exposure times of 105 minutes at 70°C and 17.5 minutes at 90°C were both effective. These treatments are also likely to be effective at controlling most other protist, fungal and bacterial plant pathogens.

Joy Gaze, Deputy Head of Microbiology commented: *"It was particularly interesting to approach an agronomic problem using our many years' practical experience in microbial thermal death kinetics, much of which has been gained through work targeted at the processing and manufacturing stages. It also illustrates the great benefit of collaborative partnerships in tackling problems of practical significance."*





HACCP - courses for all needs

robert.gaze@campdenbri.co.uk +44(0)1386 842080
andrews.collins@campdenbri.co.uk +44(0)1386 842279

Identification of hazards and putting in systems to reduce the risk from these hazards to acceptable levels is the cornerstone of food safety in all parts of the food manufacturing and distribution chain. HACCP (Hazard Analysis and Critical Control Point) is the way to do this, and we run a variety of courses throughout the year to cover all aspects. Robert Gaze, who leads our HACCP services, explains:

"HACCP is a fundamentally practical operation, and our courses reflect this. Throughout the year, we run scheduled and bespoke general courses at foundation, intermediate and advanced level, as well as a refresher course, which helps demonstrate to external and third party auditors that a team's knowledge and understanding has been maintained. In addition, we run specialist courses looking at HACCP in relation to brewing, wine making, packaging and engineering issues, and to new product development, in which delegates develop a case study to which the key principles of Codex HACCP for process design are applied."

"Validation and verification are vital elements of all HACCP systems, and in our course a number of case studies are used to explore practical techniques of validation. Auditing of HACCP systems is an important part of verification, and we run courses at foundation and intermediate level to give an understanding of the benefits of auditing and how to carry out effective HACCP audits."

www.campdenbri.co.uk/training.php

July training events

A full list of 2014 scheduled courses is available on our website www.campdenbri.co.uk/training.php or you can request a booklet from training@campdenbri.co.uk +44(0)1386 842104

- 1 Food contact materials seminar
- 2-3 Building safety in - advanced
- 7-11 HACCP - advanced
- 8 Getting and staying audit ready - facing the auditor
- 9-10 Principles of pasteurisation
- 10 Risk assessment of raw materials for manufacturers
- 15-16 HACCP - intermediate (workshop)



Lab Innovations 2014

daphne.davies@campdenbri.co.uk +44(0)1386 842040

Lab Innovations on 5-6 November is an important event on our calendar as we prepare to host a number of presentations as part of the exhibition. In an effort to improve understanding of new developments in the food and drink industry, the presentations will address microbiological and analytical topics, fitting in with the event's focus on the laboratory industry.

The first presentation, entitled 'To taste or not to taste...that is the question!', welcomes the viewer into the world of sensory testing and how we use human instruments for taint identification. 'Man vs Machine' investigates instruments that can detect very low levels of thousands of flavour active compounds in food, and demonstrates the capabilities of these instruments by comparing the power of a human against the might of a machine. The final presentation, 'The good, the bad and the ugly', focuses on the array of new microbiological threats on the horizon, some of which we have little idea how to control effectively. This presentation will highlight the changes in microbiological risk that we are seeing now, and give a small peek into the future to show perhaps what lies ahead.

Join us at Lab Innovations to find out more and hear what our experts have to say.

The latest news and information for our members



Visit Member Zone to access privileged member information and services

www.campdenbri.co.uk/memberzone.php

'Industry needs' document

leighton.jones@campdenbri.co.uk +44(0)1386 842018

Our Scientific and Technical Needs document is a triennial consultation and review which gathers industry opinion on what the sector needs from science and technology. Done in consultation with our members, the document promotes and highlights what industry requires. It is used by Campden BRI to structure the R&D programme, to identify new services that might be needed, and to help inform development of events, courses and publications. Alongside this it is used by government and funding bodies to gain an insight into industry needs; universities also utilise it to ensure the industrial relevance of their courses.

The 2012-2014 version is being revised and updated to produce the 2015-2017 document. Any member suggestions would be very welcome. Now is the time for members to have their say and ensure that their scientific and technical needs get recorded and subsequently addressed. So please do let us know what you think industry needs science and technology to tackle over the next 3-5 years.

Benefit of membership Easy access to experts

For short enquiries you can call our experts free of charge. Longer enquiries can be paid for by using your Member Service Account (MSA)



Keep up to date with research

More R&D reports have recently been published, giving extensive details of the results of member-funded research, exclusively for members.

Evaluation of biopesticides for control of leek rust *Puccinia allii* (RD365)

Microbiological safety and quality of chilled pasteurised food products: A review (RD366)

An investigation into how consumers respond when exposed to different types of claim statements (health, nutrition and sensory) (RD367)

Novel approaches to the development of products which are 'clean label' or 'natural' (RD368)

Encouraging positive consumer attitude/behaviour change towards sustainable foods: first intervention study (sustainable frozen fish) (RD369)

Members can receive free electronic copies of these documents by sending an e-mail to auto@campdenbri.co.uk with the subject line: **send RDxxx** where xxx is the number of the report. By sending an e-mail with the command **send index** you will receive a full list of the reports and other publications available.



Welcome to new members

Campden BRI is delighted to welcome the following new members who joined recently:

Arabian Beverage Co Ltd - producer of natural fruit beverages, UHT dairy products and bottled water

Artisan Biscuits Ltd - manufacturer of specialist biscuits

Caldic UK - trader in food ingredients

Danone - DFSC - food safety team

Evans Vanodine International plc - manufacturer of janitorial and livestock protection chemicals

Food and Environment Research Agency - executive agency

Fullers Foods International PLC - supplier of frozen food

Lion Haircare Ltd - manufacturer of hairnets and importer of disposable clothing

Lomond Fine Foods Ltd - wholesaler of ingredients to coffee shops

Mardon plc - processor of frozen meat and fish

Sefton Meadows Seafoods Ltd - contract packer for seafood industry

Stourgarden Ltd - grower, packer and processor of onions

SynYang FIS - importer and exporter of food products between UK and China

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

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

Social media



Facebook - find out more about our history and our lighter side www.facebook.com/campdenbripage

Twitter - regular tweets to keep up to date with our latest news and activities <https://twitter.com/campdenbri>

YouTube - a range of videos providing an insight into the science and technology underpinning food and drink production www.youtube.com/campdenbri

LinkedIn - company updates providing our latest news www.linkedin.com/company/campden-bri

iTunes - subscribe to our podcasts

Campden BRI

Station Road, Chipping Campden,
Gloucestershire, GL55 6LD, UK
+44(0)1386 842000 Fax: +44(0)1386 842100
information@campdenbri.co.uk

Nutfield site, Campden BRI,
Centenary Hall, Coopers Hill Road,
Nutfield, Surrey, RH11 4HY, UK
+44(0)1737 822272 Fax: +44(0)1737 822747
information@campdenbri.co.uk