

New research

Calorie reduction and fibre enhancement

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A new research project is aiming to:

- increase understanding of the function of fibre in products
- investigate the potential for calorie density reduction using fibre
- assess the different forms of fibre on the market

This member-funded research project started this year and will run to the end of 2021. In 2019 the project will carry out a review of existing fibres and their functionality, conduct a horizon scan of new fibre sources, produce a prototype food product to demonstrate the role of fibre in calorie density reduction, and develop a method for specific dietary fibre determination.

Later in the project, research into consumer perception and acceptability of fibre enhanced products and a toolbox for mitigating undesired effects of fibre enhancement will be carried out.

The project team is currently looking for input from members on the research. Should it be focused and in depth, or provide a broader overview? Are you interested in certain model systems or fibre types? ■

Get in touch to share your thoughts.



Newsletter



Campden BRI
100 years
with industry for industry



Case study

Short run canned food - ideal for intervention feeding trials

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We helped the University of Glasgow's School of Medicine, Dentistry and Nursing to run an intervention trial to assess the health impacts of ingredient changes to food. The aim of the trial was to observe how the addition of fermentable carbohydrates and their impact on gut microflora would affect the bioavailability of bioactive phenolic acids and any consequential health benefits.

They needed 2,800 cans of tomato and lovage soup - 1,400 cans as a control and 1,400 cans with added inulin (a type of fibre). The trial participants would then have a serving of the soup each day over a six-week trial period. The university approached us to produce and can the soup. We have a pilot canning plant, which is ideal for small sample runs, and we were able to provide the soup recipe according to the university's precise specification. The samples were then canned, heat processed, packed into boxes, put on pallets and delivered to the university. Our facilities enabled the university to run the trials using sample sizes that were statistically valid and cost-effective. ■

Get in touch to find out how our pilot plant can help you or search 'pilot plant' at campdenbri.co.uk

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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:

- Bonta Italia Ltd - importer and distributor of Italian food products
- Bumble Hole Foods - manufacturer of pasteurised liquid egg, boiled egg and egg mayonnaise
- International Culinary Institute (ICI) VTC - Hotel and Tourist Institute
- Keith Spicer Ltd - blenders and packers of tea
- Kingdom Bakeries Ltd - baker of rolls and confectionery
- McCaughy Foods - production of cooked ready to eat and ready to reheat breaded meats
- Speciality Cooking Supplies Ltd T/A Sous Chef - online retailer of ingredients and cookware
- Stockans Oatcakes Ltd - manufacturers of oatcakes
- Suprex Ltd - research and processing using super critical CO₂
- The Condiment Co Ltd - manufacturer of condiments including mayonnaise, dressings, chutneys and pestos
- Tyler Packaging Ltd - supplier of flexible packaging
- UK Blending Ltd - blending of herbs, spices and flavours for the food industry
- Wherry & Sons Ltd - agent/broker of dried pulses
- 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.

News

New egg-free club project

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Egg is a unique multi-functional ingredient which is used in many different products. It is used for moisturisation, aeration, emulsification, enriching, colour and shine, and structure formation.

Consumer demand for plant-based products is increasing. Plant-based ingredients are known to have great functional properties such as foaming, emulsification and gelling due to their chemical composition. They could provide suitable replacements for egg in various products.

Our new club project will investigate how product quality can be maintained and improved cost-effectively by using plant-based alternatives to replace egg functionality. This will be achieved by providing practical guidance on how to identify and use the most suitable egg replacement ingredients for each product category based on an increased understanding of the mechanisms of plant-based egg replacements. ■

To find out more about the project get in touch.

Martin Hall retires



Martin Hall, our director of science, retired in April after 43 years with the company. Amazingly, it ends an era that has seen generations of his family continuously

employed here since we were founded 100 years ago.

In July 2015 a £2.5 million, state-of-the-art food analysis laboratory was opened and named The Halls' Laboratory, in honour of this.

Martin has contributed to many industry and Government committees, nationally and internationally, especially in the areas of food analysis, authenticity and contamination, and has been instrumental in driving Campden BRI's business in South Korea. ■

What is the legislative situation for products containing cannabidiol?

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With increased media coverage and social media interest leading to growing consumer awareness of hemp derivatives, in particular cannabidiol (CBD), many in the food and drink industry are looking to develop new products containing this compound. However, the legislative situation for such products is complex.

On 1 February 2019, the European Commission amended the entry for CBD in the EU Novel Foods Catalogue. Food businesses have been unable to prove that there is a significant history of consumption of CBD in food prior to May 1997 in the EU. Under the EU Novel Foods Regulations therefore, extracts of *Cannabis sativa* and derived products containing cannabinoids (including CBD) are considered novel foods and need to be evaluated and authorised before they are permitted to be placed on the market in the EU. This applies to the extracts, products to which they are added, and extracts of other plants containing cannabinoids. The situation does not affect some products derived from the *Cannabis sativa* plant, or plant parts such as seeds, seed oil, hemp seed flour, defatted hemp seed, which have a history of consumption in the EU and therefore are not novel.

The Food Standards Agency (FSA) is considering a way forward to achieve compliance. ■



A roundup of recent research summary sheets (RSS)

Search 'rss' at campdenbri.co.uk

Research Summary Sheets (RSSs) provide concise overviews of individual R&D projects. These projects directly benefit the food and drink industry. They underpin the skills and knowledge needed to help industry innovate and resolve problems. In 2018, 28 RSSs were produced. We've listed them below under the five key areas of our member-funded research. RSSs are free to members and are available to download from our website.

Safety

- 2018-3 The power of LC-QTOF profiling in gluten speciation
- 2018-14 Peptide profiling as potential tool in process control and benchmarking
- 2018-15 Effects of retrospective engineering using modelling: airflow simulation for hygiene
- 2018-18 Development and scale-up of cold plasma technology for continuous cleaning
- 2018-20 Risk reduction strategies for chemical contaminants
- 2018-24 Effect of UV treatments on murine norovirus
- 2018-25 Rapid methods for hygiene determination

Quality and value

- 2018-1 Limitations of shelf-life prediction using an Oxitest
- 2018-5 Advanced microbial profiling: does culture give an accurate picture of shelf-life?
- 2018-6 Advanced microbial profiling: do animal husbandry practices impact the microflora of milk?
- 2018-10 New technologies for food manufacturing - quality impacts of continuous microwave processing
- 2018-13 Design and modelling of the impact of food structure on food texture
- 2018-16 Foaming properties of aqueous extracts from legumes



- 2018-21 Investigating 3D-printing of food
- 2018-22 Quantifying lignin for food by-product valorisation using a non-chemical method
- 2018-23 Microbiological shelf-life testing: new approaches
- 2018-26 Resistant starch analysis
- 2018-28 Quality and safety of cereal-based products and ingredients for the food and brewing industry

Nutrition, health and well-being

- 2018-2 Calorie reduction of chocolate ice cream
- 2018-8 Consumer testing of a nutritionally enhanced ready meal for older adults
- 2018-9 Consumer and industry understanding of the term clean label with particular reference to sugar reduction
- 2018-12 Sugar reduction in milk chocolate
- 2018-17 Openability of packaging
- 2018-19 Improving the nutritional status of crops for the agri-food chain
- 2018-27 Replacing sugar functionality in oat-based cereal bars

Sustainability, resilience and food security

- 2018-7 Mitigating food fraud - use of simple analytical approaches for routine authenticity screening of ground ginger
- 2018-11 Detection of the adulteration of dried parsley with celery using GC-QTOF-MS

Skills and knowledge

- 2018-4 A practical approach providing systems to evaluate threats and risks to assure the safe management of the supply chain

To find out more about our current member-funded research

Search 'projects' at campdenbri.co.uk



Resistant starch analysis

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As the focus on the nutritional quality of food and its influence on health increases, so does the interest in functional components such as resistant starch.

In human beings, this specific type of starch is not digested in the small intestine but ferments in the large intestine. Resistant starch is a type of dietary fibre naturally present in many starchy foods (e.g. bananas, potatoes, grains) which initiates a lower glycaemic response than digestible carbohydrates. As a result, Commission Regulation (EU) 432/2012 authorises an associated health claim.

As part of the member-funded research project on emerging ingredients, the resistant starch content of buckwheat grain and flour samples was determined and the potential effect of extrusion on resistant starch content was considered. The performance of AACC Method 32-40.01 was also investigated. The results have been published in RSS2018-26 (search 'rss' at campdenbri.co.uk). ■

In terms of general wheat and flour analysis skills, you may be interested in our Wheat and Flour Testing for Bakery Products course on 25-27 June 2019. www.campdenbri.co.uk/training/wheat-flour-testing-bakery-products

Member zone

to access privileged member information and services

New member-funded research projects

Nutrition, health and well-being

Pre-processing to improve natural nutrition and functionality of ingredients

www.campdenbri.co.uk/research/pre-processing.php

This project will develop knowledge on nutrient bioaccessibility and bioavailability to optimise the nutritional value and technical function of food products. It will also investigate the effect of processing techniques on bioavailability of nutrients and demonstrate formulations and functionality improvements that processes can offer for different product categories.

Potential of plant proteins for ingredient and product development

www.campdenbri.co.uk/research/plant-proteins.php

This project will develop techniques for the selection of protein-rich ingredients that are cost and time efficient, and provide guidance on how to optimise their nutritional value and technical performance. It will also investigate consumer expectations and attitudes towards plant proteins. ■

Visit the project pages to find out more about the research.



Join our LinkedIn group to keep up to date with the spring MIGs

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If you want to keep up with the hot topics from the latest round of MIGs, but can't attend in person, our MIGs LinkedIn group can help. During each MIG, the hot topics are noted and then published, usually on the same day, to the MIGs LinkedIn group.

The group also allows members to network and discuss MIG content between meetings and can be used to suggest ideas for future MIGs. ■

To join the group contact Emma Burton

We need your input

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We will be carrying out our twice-yearly client survey in the next few weeks. Please keep a look out for the survey and take the time to respond. Your feedback is invaluable as it will help improve our services and how we work with you.

Campden BRI Day 2019

Wednesday 12 June

2019 is our centenary and this year the Campden Lecture will be given by two speakers from companies that are also celebrating their 100th year:

- Sarah Bradbury - Group Quality Director, Tesco
- John Carter - Vice President Quality EDP, Danone

The day, open to members and key clients, will allow you to explore how science and technology is being used to tackle industry needs. You will have the opportunity to network with industry peers, view scientific and technical exhibits, attend briefings, and tour the pilot plant.

Registration is open. ■

Attendance is free - to register and for more information search 'CBD' at campdenbri.co.uk



New product development using quinoa flour

www.campdenbri.co.uk/research/emerging-ingredients.php

Ancient grains may provide opportunities to enhance the nutritional profile of products. The aim of this study was to use quinoa to manufacture a product that could be marketed as one that helped the public to reach their micronutrient goals. A quinoa chocolate pudding and drink, both eligible for nutritional claims, were produced.

The research (published in RD449) was conducted as part of a member-funded research project entitled *Emerging Ingredients - Considerations for use in Products*. ■

Visit the website to find out more about the project.

Latest blogs

Flavour and taint troubleshooting

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Problems with taints and off-flavours can cost food and drink companies considerable money and time through wasted product and lost production - and there are also reputational impacts to consider. Taint is a sensory issue, but often needs chemical analysis to determine what it is and how it arises. Understanding the cause is crucial in preventing recurrences.

In a recent blog, Rob Levermore, flavour and taint group manager, wrote about how taint arises and how technical and sensory methods can be used to trace its source. ■

Search 'blogs' at campdenbri.co.uk

How can you meet the meat-free trend?

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Consumer purchases are increasingly being driven by ethical, environmental and sustainability considerations. It's therefore not surprising that the trend for vegan food has spread quickly, with meat and dairy alternatives proving popular with consumers.

In this blog, Liz Mulvey, our product innovation lead, discusses the drivers behind reformulating products using meat alternatives. ■

Search 'blogs' at campdenbri.co.uk



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

June 2019 courses

- 3-7 FSSC 22000 auditor/lead auditor course
- 4 Root cause analysis
- 4 Setting shelf-life: how to do it better
- 4-6 Food safety - intermediate (level 3)
- 4-6 Bread science and technology
- 5-6 Understanding microbiology
- 18 Safe cooking: process validation
- 18 Sensory evaluation - an introduction
- 18-19 HACCP - intermediate (level 3)
- 19-20 Factory inspections - technical issues
- 20 Microbiology measurement uncertainty: meeting the new requirements for ISO 19036
- 24-27 Better process control school (BPCS)
- 24-28 HACCP - advanced (level 4)
- 25-27 Wheat and flour testing for bakery products
- 26-27 ~~Food and drink labelling~~ - now full

Better process control school (BPCS)

www.campdenbri.co.uk/training/better-process-control-school

Are you exporting canned or aseptically packaged foods to the USA? This course provides information and support to help companies meet the requirements in US federal regulations.

The better process control school has been recognised by the FDA (Food and Drug Administration) and is aimed at production and technical personnel responsible for the management of canned and aseptic process foods and their compliance with FDA and USDA regulations.



Skills and knowledge

Seminars

Rapid and conventional microbiological methods seminar 13 June 2019

www.campdenbri.co.uk/microbiological-methods.php

Rapid testing is becoming more widespread in microbiology laboratories as they strive to provide faster and more accurate results. This seminar will look at rapid and conventional microbial methods. It will also include a manufacturer exhibition, which will provide delegates with an opportunity to network with suppliers and explore available testing and identification options.

3D food printing seminar 20 June 2019

www.campdenbri.co.uk/3d-printing.php

3D printing can be used for the creation of novel structures which are not possible with conventional technology. This seminar will cover its application in personalised nutrition, waste reduction and revalorisation, reduction of NPD times and late customisation. ■

www.campdenbri.co.uk/training.php