



A new project will help members understand where chemical contaminants can originate and the route by which they can contaminate food products during primary production and processing. Factors affecting levels of chemical contaminants in food products could include growing site history, source of fertiliser/organic manure, soil pH, irrigation water and varietal choice.

Recent issues have included:

- Perchlorates and chlorates in fruit and vegetables
- Cadmium in cereals, vegetables and potatoes, which are major contributors of cadmium in the diet
- Lead - although levels are decreasing, there is no evidence for a 'safe level'
- Nickel - levels in the diet have been identified as being of concern to sensitized members of the population
- Mycotoxins continue to be a problem in cereal crops, especially *Fusarium* mycotoxins and ergot alkaloids
- Acrylamide is an issue in potatoes and cereals and is a known carcinogen
- Organic contaminants can originate from use of biosolids on crops, for example polychlorinated alkanes (PCAs)

Member companies have identified chlorates and perchlorates as the chemical contaminants of current importance in fresh produce; these are introduced via irrigation waters and post-harvest washing procedures.

Overall guidance will be produced to help members minimise contaminant levels through agronomic interventions, selection of growing sites and cultivar choice.

Chemical contaminants in primary products

nick.jessop@campdenbri.co.uk +44(0)1386 842220

campdenbri.co.uk/research/risk-reduction-strategies.php

Skills pipeline

The emerging skills shortage facing the sector was highlighted during our 2015 consultation on the needs of industry. The issue was also identified by Food Manufacture in their recent State of the UK Food and Drink Manufacturing Sector Survey, where over 60 percent of those questioned either agreed or strongly agreed that their company finds it difficult to recruit people with the appropriate skills.

2

We actively support industry to build the skills and expertise of the workforce. Last year, our experts delivered 250 courses to 5,000 people globally. In addition to our comprehensive range of specialist food and drink training courses, seminars and conferences, we work closely with companies to develop bespoke training academies. These entirely flexible programmes provide training to company employees or suppliers. These are often long-term ventures. Each year, we carry out a global food safety training survey among food and drink manufacturers and processors worldwide to identify the needs, effectiveness and challenges of food safety training. To find out the results of this year's survey please visit www.campdenbri.co.uk/pr/global-food-safety-training-survey.php.

Steven Walker, Director General

New Council Chair appointed

Alec Kyriakides, Head of Product Quality, Safety & Suppliers Performance at Sainsbury's Supermarket's Ltd, this month takes over as Chair of our Council. He replaces Brett Warburton, Executive Director of Warburton's Ltd, who has served for the past five years. We are immensely grateful to Brett for his invaluable input and close involvement with us throughout his tenure.

Switch channel



LinkedIn - company news
www.linkedin.com/company/campden-bri



YouTube - videos on the science and technology of food and drink production
www.youtube.com/campdenbri



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



iTunes - subscribe to our podcasts



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



Alec Kyriakides

Bacteriophages to control bacteria

roy.betts@campdenbri.co.uk +44(0)1386 842075

An FSA-funded review of the potential use of bacteriophages on foods, carried out by Campden BRI, has recently been published on the Food Standards Agency website (<http://bit.ly/fsareview>).

This project assessed the available information on the current and potential uses of viruses (bacteriophages) in food production to reduce the level of microbiological contamination (e.g. food pathogens or spoilage organisms), thus increasing consumer protection and/or increasing the shelf life of food.

It was considered unlikely that a single bacteriophage would be effective against all strains of a particular bacterial species, and that a 'cocktail' of bacteriophages may be necessary to reduce bacteria levels. The use of a bacteriophage with other antimicrobial treatments (e.g. nisin) often resulted in an improved 'kill' of the target bacteria.

More virus expertise

martin.d'agostino@campdenbri.co.uk +44(0)1386 842537
www.campdenbri.co.uk/research/viruses-in-food-production.php

We have strengthened our expertise in foodborne virus issues with the appointment of Martin D'Agostino, who previously worked as a microbiologist at Fera Science. The importance of viruses in food and drink safety has been highlighted recently and Martin will use his experience and knowledge to help members in a range of virus-related fields as well as leading our ongoing programme of research in this area (see www.campdenbri.co.uk/research/viruses-in-food-production.php). He recently produced a white paper: *Foodborne viruses - what they cause, how they get into food, and what we can do about it* - which you can read at www.campdenbri.co.uk/white-papers/foodborne-viruses.php

Upcoming seminar: *Viruses* - 24 November 2016 contact daphne.davies@campdenbri.co.uk



Test baking and product development service

edward.benham@campdenbri.co.uk +44(0)1386 842475

If you are developing new baked products, you will need to trial your recipes and processes on a pilot scale before attempting full-scale production. Ed Benham explains:

"Our wealth of knowledge and experience in baked product design and manufacture makes us ideally placed, because we are impartial - we advise on ingredients and equipment based upon performance, functionality and fitness for purpose - and can call upon a vast network of contacts in order to make informed decisions. Extensive pilot plant facilities and processing equipment includes a wide variety of mixers, proofers and ovens (travelling, convection and stonebake) of different sizes and environments to enable flexibility and experimentation. Importantly, analytical equipment allows us to detect small changes in product attributes as a result of changes to processing or ingredients."

Examples of what we can do include: analysis of flour types, specification and impact on final product quality through loaf volume; effect of enzymes on finished product cell structure and softness; functionality and comparison of improvers; flavour testing and organoleptic assessment; fault diagnosis and value engineering; and design of products to fit bespoke processes and procedures.

See our facilities at www.campdenbri.co.uk/tours/baking.php



Hygiene: the ultimate prerequisite for safety

mariane.hodgkinson@campdenbri.co.uk +44(0)1386 842272

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. Air movements have to be optimised, and personnel have not only to be trained in hygienic practices, but monitored to ensure that they are carrying out such practices.

Designing and building

It is important to use the correct materials for floors, walls and ceilings, and to put all of the pieces of a complex jigsaw together in the right way. This requires expertise on the hygienic properties of building materials, floors, drains, walls, ceiling and factory finishes and the

engineering aspects of air management. Only if this is done correctly will there be any point in designing equipment properly. As well as doing its intended job, food processing equipment must be designed so that it can be easily and effectively cleaned, and so that the cleaning does not compromise its long-term usability.

Cleaning and disinfection

Ensuring that factories are cleaned and disinfected effectively and in a timely fashion involves decisions on when to clean, how to clean and what chemicals to use, in order to remove physical, chemical and microbiological contaminants. Cleaning protocols must be validated in order to provide assurance that they do, in fact, serve their purpose: to clean the surfaces to a level that avoids the possibility of cross-contamination. In food production settings, the main cross-contamination hazards are physical, chemical, biological and allergenic. Depending on the product's intended consumers, the process and procedure for the control of the hazards may vary significantly*.

We can advise on cleaning methods, cleaning agents and disinfectant selection for wet cleaning, dry cleaning and CIP (cleaning-in-place) systems.



In particular, we can offer assistance with the development and practical implementation of effective housekeeping and cleaning and disinfection schedules, as well as on the disinfection of factory process water systems.

Personnel hygiene

The most effectively designed food processing area and the most hygienically designed food processing equipment can be badly undermined if the personnel working in the area don't follow (or are hindered from following) the correct hygienic procedures and practices, including clothing and footwear, use of changing, sanitary and hand washing facilities, and management of staff flow between low and high risk areas. Recent research has helped us establish best practice with respect to hand washing, hand drying, the assessment of hand washing programmes, and the wearing of gloves.

We can provide tailored training to address your needs in any of the areas mentioned - so get in touch to ensure that you have covered any potential hazards.

*For a free white paper on cleaning validation, send an e-mail to auto@campdenbri.co.uk with the subject line: send cleaning

Food safety culture excellence

bertrand.emond@campdenbri.co.uk +44(0)1 386 842062
www.cultureexcellence.com

The importance of food safety and quality has become increasingly recognised in the past few years, as has the role of psychology and the importance of behaviour-based approaches to food safety and quality management. The move towards unannounced audits is also putting pressure on sites to be audit-ready at all times. The only way to ensure this is to have the right culture: the best documented food safety processes and standards in the world are useless if they are not consistently put into practice by people.

As part of the Campden BRI/TSI Culture Excellence Programme, we recently put together a fantastic conference programme, featuring three of the most influential global experts in culture. We then hosted the Food Safety Culture International Science Group, gathering a wide range of international academics sharing their latest research in understanding and shaping food safety culture.

Learn more about Culture Excellence at
www.campdenbri.co.uk/culture-excellence.php



Seminars

training@campdenbri.co.uk +44(0)1386 842104

Food factory of the future 22 September

www.campdenbri.co.uk/food-factory.php
daphne.davies@campdenbri.co.uk

PRECIOUS www.thepreciousproject.eu

23 September at Imperial College, London

charlotte.holmes@campdenbri.co.uk +44(0)1386 842257

Sensing technology www.musetech.eu

20 September at our Nutfield site

ed.wray@campdenbri.co.uk + 44(0)1737 824245

Training and Development Group

28 September 2016

www.campdenbri.co.uk/training-development-group.php

This meeting focusses on more of the challenges and issues that food businesses have to deal with.

Training events

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

September events

- 1 HACCP for craft brewers
- 5-8 Sensory evaluation workshop
- 6-7 HACCP - intermediate (level 3)
- 12-16 Food safety - advanced (level 4)
- 13 Threat Assessment Critical Control Point (TACCP) - foundation level
- 14 Root Cause Analysis
- 19-23 FSSC 22000 Auditor/Lead Auditor course
- 19-23 HACCP - advanced (level 4)
- 22 Food factory of the future
- 22 USA food and drink labelling course
- 27 HACCP - foundation (level 2)
- 27-29 Practical microbiology - foundation
- 28-29 Internal auditing - principles and practices

Sainsbury's Technical Management Academy at Campden BRI

This year is the 10th anniversary of the creation of the Sainsbury's Technical Management Academy (TMA) at Campden BRI. The programme consists of workshops designed to reinforce technical knowledge, challenge practices and share experiences and best practice. We were delighted to welcome representatives from Sainsbury's and over 90 of their suppliers to our Chipping Campden site for their annual TMA conference last month. Amongst the guest speakers was Olympic Champion, Sally Gunnell.

Member zone

www.campdenbri.co.uk/memberzone.php

to access privileged member information and services

R&D Reports

Does packaging tell the consumer what to expect?

www.campdenbri.co.uk/research/packaging-design.php

Food and drink packaging needs to provide objective and subjective information to allow the consumer to make an informed decision regarding purchase. Objective messages provide information relating to nutrition and origin, for example, whereas subjective messages are emotive and describe the sensory qualities.

Utilising five chilled green tea products, this research investigated the degree of alignment between consumers' product experience and product packaging-induced expectations. This is described in *How does product packaging convey perceptual (sensory) and non-perceptual (functional and emotional benefits) product information?* (RD406)

How do ingredients affect starch firmness?

www.campdenbri.co.uk/research/ingredient-functionality-shelf-life.php

Baked products and other starch-based foods undergo undesirable changes after production that result in changes in their physical or textural properties. This can lead to increased firmness of products such as bread and cakes, as well as syneresis in chilled dairy products and sauces. Changes in starch are considered to be responsible and this can vary depending on the starch types used. *Effect of ingredients on the hardness and retrogradation properties of a model starch gel system* (RD407) looks at the effect of selected ingredients on the firmness and retrogradation properties of starch during storage under chill and ambient conditions.



Welcome to new members

We are delighted to welcome the following new members:

B Investment Solutions Ltd - importer and exporter of specialist food ingredients

CPM Retail Ltd - soft fruits marketing agency

Hodmedod Ltd - provider of beans, peas and quinoa products

Icarus Group UK - manufacturer of food supplements

Maldon Salt - producer of natural sea salt

Mrs Gill's Kitchen - manufacturer of ready meals

Nigel Fredericks Ltd - catering butcher

Olympic Oils Limited T/A Olympic Foods - packer of cooking oils and manufacturer of sauces

R&K Drysdale Ltd - grower, processor and packer of swede, Brussel sprouts and leeks

Real Yorkshire Pudding Company - manufacturer of chilled and frozen Yorkshire puddings

RedJade - enterprise software for sensory and consumer insights

Sovereign Beverage Company Ltd - importer and exporter of alcoholic drinks

Stream Foods Ltd - manufacturer of dried fruit snack products

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.



Integrating packaging and product experience

peter.burgess@campdenbri.co.uk +44(0)1386 842122

Packaging is much more than just a means of getting products safely to consumers. It is also a highly effective and visible platform to convey both brand values and key marketing messages.

Traditionally, food and drink products and packaging have been seen as distinct entities and treated separately. An emerging and growing focus on their inter-relationship is opening up new ways of thinking about product development and innovation that can have significant implications for a brand and its positioning in the market.

Sensory branding can help companies develop brands and products with packaging that connects with consumers on a non-conscious level. It is about creating or emphasising sensations - namely the touch, taste, smell, sound and look of a product - that affect consumers' emotions, memories, perceptions, preferences and choices, helping brand owners optimise the integration of packaging and product experience, and guiding the tone and style of brand development and marketing activities more generally.

If you want to find out more about multisensory approaches to integrated packaging and product consumer experience then please read our online blog at www.campdenbri.co.uk/blogs/campdenbri-blogs.php or do get in touch.

Latest on the website

Fresh produce decontamination

Blog by Linda Everis

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

Ultra-violet light and decontamination

Podcast by Danny Bayliss

www.campdenbri.co.uk/podcasts.php

Campden BRI Day highlights

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

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

information@campdenbri.co.uk

www.campdenbri.co.uk