

# Newsletter

January 2011



## Mycotoxin analysis - the options

Sampling and analysis of cereals are undertaken to demonstrate legal compliance, to verify the efficacy of control measures, and to demonstrate commercial compliance. We have recently evaluated the current status of mycotoxin analysis - which will prove very important for the cereals industry as it seeks to further improve the quality and safety of grain raw materials. Whilst there are reference methods for analysis of mycotoxins in foodstuffs, there are no specific protocols. However, any test used to determine compliance with legislation must comply with pre-defined performance criteria.

### Commercial compliance and reliability

Rapid test kits are generally used for demonstrating commercial compliance and for auditing the control of contamination, throughout production and storage. Relatively few rapid kits are accredited by external bodies such as AOAC and USDA/GIPSA. This is likely to remain the case, as validation must be performed separately for each matrix, and can be a costly and lengthy process. The reliability of the results of any analytical technique rests heavily on the efficacy of the protocols used in selecting a representative sample. Attempts are being made to harmonise mycotoxin analysis methods, which should improve quality management.

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### LC-MS

The advent of these new methods will complement the analytical service that we provide, using liquid chromatography-mass spectrometry, which is capable of detecting very low levels of mycotoxins.

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Your partner of choice  
for analysis and testing





# service...

## New equipment offers increased shelf life testing potential

We have installed new equipment which offers the potential for accelerated testing of a product's response to light exposure. The VeriVide photostability cabinet allows intense exposure to light, which can give an early indication of the long term stability of a food or drink product with regard to factors such as colour fading or oxidation.

Sarah Chapman, Product Development Technologist, explains some of the features of the cabinet:

*"Using this equipment we will be able to store and evaluate the light sensitivity of a range of foods and drinks and thus allow clients to better predict the shelf-lives of susceptible products.*

*The cabinet has two light sources, one representing artificial daylight and the other representing fluorescent light at point of sale. The control panel is configured to allow switching between the two light sources and to vary the light intensity of both. As the cabinet is sited in a temperature and humidity controlled storage room, it is able to maintain ambient temperature and humidity. Reflector linings on the walls and doors mean that shading is avoided."*

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## Forthcoming events

Microbiological safety of raw milk cheeses - 8 March 2011  
<http://www.campden.co.uk/cheese-safety-seminar.htm>

Managing microbiological safety of fresh produce - 10 March 2011  
<http://www.campden.co.uk/micro-safety-seminar.htm>

Inks and coatings seminar - 24 March 2011  
<http://www.campden.co.uk/inks-coatings-seminar.htm>

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## BRC for Food Safety Issue 6 - an insight

Our Quality Management Panel provides a forum for discussion and an opportunity to influence developments in quality management, the sharing of best practice, information exchange, research direction and management of related topics.

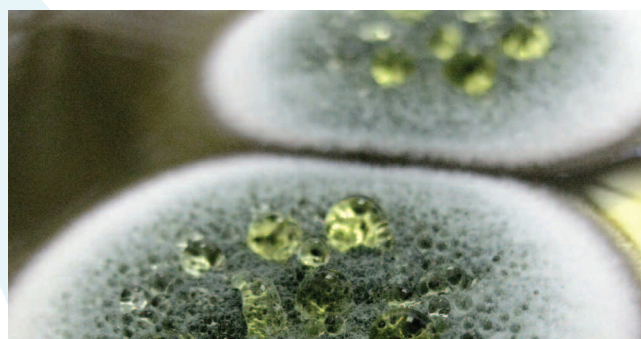
One of the hot topics at the moment is the heavily anticipated release of Issue 6 of the BRC Global Standard for Food Safety. On 26 January David Brackston from the British Retail Consortium will be talking to the Panel about the new release, which will occur sometime in 2011. Panel members will have the rare opportunity to hear some of BRC's early ideas, and discuss, ask questions and make comments prior to its release.

### To join a panel

All full members of Campden BRI are entitled to nominate one or more staff members to sit on one or more panels. Please contact the Membership Department ([membership@campden.co.uk](mailto:membership@campden.co.uk)).

For further information about Quality Management Panel meetings or Campden BRI's quality management services please contact:

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Courtesy of Charmaine Mitchell

## Some yeasts and moulds grow very well at low temperatures

The growth of many microorganisms, including fungi, is slowed or completely inhibited at low (e.g. refrigeration) temperatures. However, some moulds have been reported to grow at temperatures below freezing. These include a large number of foodborne species from the genera *Penicillium*, *Fusarium*, *Alternaria* and *Cladosporium*. Consequently, potential growth and spoilage by these moulds

## Clare's tips

Clare Brett is our Membership Development Officer. In a regular feature, she will be passing on tips on how you can get the best out of your membership package.



This month the topic is **Newsfeeds**

*"As a member of Campden BRI the easiest way of keeping up to date with many activities is through our opt-in newsfeeds. This is an e-mail alert system covering a wide range of topics. Subscribing is easy and **free** - just visit [www.campden.co.uk/optin.htm](http://www.campden.co.uk/optin.htm). You can easily unsubscribe by e-mail at any time (details are provided in each newsfeed sent), and subscribe to just the topics that interest you.*

*These e-mails will alert you when there is any new information or a new **R&D Report**, related to your selected topics. You can then access the information or download the report if you wish."*

If you have any queries about this or any aspects of your membership please feel free to contact me:

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is very relevant to foods stored at chill temperatures. Our recent research has begun to characterise some *Penicillium* species that may be particularly worth watching.

### Potentially serious spoilage repercussions

Nine strains of *Penicillium* strains were placed into 2 groups based on their growth behaviour following 'training' to grow at progressively lower temperatures: Group (a) isolates were able to grow more quickly at 0°C compared to 2°C; Group (b) isolates were able to grow more slowly at 0°C compared to 2°C. A biochemical mechanism for the behaviour of Group (a) isolates is suggested, based on glycerol and trehalose (providing protection to low temperatures) working in conjunction with heat shock proteins. The ability of moulds to be able to grow and sporulate at low temperatures has potentially serious spoilage repercussions for manufacturers of chilled and frozen foods. It places more emphasis on the requirement for maintaining clean environmental conditions in the food factory, and preventing opportunities for cross-contamination by moulds.

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Members can obtain an electronic copy of the full report (*Fungal behaviour at cold temperatures - R&D Report 302*) by sending an e-mail to [auto@campden.co.uk](mailto:auto@campden.co.uk) with the subject line: **send RD302**

## Microbiological methods: validation, utilisation and interpretation

In any type of analysis, it is important that the method used is effective and fit for purpose - i.e. that it works and is designed to answer the question that you are asking. In microbiology, there are specialised issues that need to be addressed in validating a specific method and in evaluating results from its use. We can advise clients on which methods best suit their needs - and we can also validate methods against international standards.

### Microbiological methods can be complex

Roy Betts, Head of Microbiology, comments:

*"They don't always give exact answers, and understanding what results mean is of great commercial importance when deciding on a manufacturing course of action. Therefore, it is vital that appropriate methods are used and that they are shown to be suitable for a particular situation. We can help in many ways - from validating the method itself on behalf of the method manufacturer, through advising clients on which methods are suitable, to evaluating results from analyses using the methods.*

*We can validate methods to a company's own standard, or for one of several officially recognised validation bodies, such as MicroVal, AFNOR or AOAC. Many companies are now developing rapid methods for different purposes. If these are designed to monitor foods for microorganisms covered by the EU Microbiological Criteria Regulation (2005/2073), then they have to be validated and certified according to ISO Standard 16140, which in effect means meeting the criteria of MicroVal or AFNOR.*

*Our experience in validating methods means that we are well placed to advise clients on which ones are suitable for a particular need, on their limitations, if appropriate, and in then explaining the results obtained."*

**Don't use inappropriate methods, or draw the wrong conclusions from the right result!**

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## See you in Cologne

There is a great chance to catch up with the latest in analysis and testing at the Food & Beverage TEST Expo in Cologne, Germany on 8-10 February 2011, in which we are playing a major role.

Details and registration for the free Campden BRI forums, workshops and keynote presentations can be found at [www.campden.co.uk/foodtestexpo.htm](http://www.campden.co.uk/foodtestexpo.htm) or just come along to our stand and visit us.

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## Research at Campden BRI

The 2011 issue of our Research Programme document is now available - giving details of all the research projects currently being undertaken at Campden BRI. To receive an electronic copy of this document, send an e-mail to [auto@campden.co.uk](mailto:auto@campden.co.uk), with the subject line: **send RP2011**

Also available via this route for members only are all of our latest R&D reports. To receive one of these send an e-mail with the subject line: **send RDxxx** where xxx is the number of the report.

The reports published in 2010 were:

- RD292** Consumers' interpretation of on-pack communication: findings from focus group research and literature review
- RD293** The relative importance of environmental concerns and ethical practices when consumers make food and drink purchasing decisions. Part 2
- RD294** Fungal forensics: an evaluation of three commercial identification and characterisation systems
- RD295** The effects of on-pack images on consumers' expectations and product experiences
- RD296** The thinning of soups by *Bacillus* spp. (*B. subtilis*, *B. licheniformis* and *B. megaterium*) and amylases produced by *B. licheniformis*
- RD297** Reducing the microbial counts on chicken broilers using lactic acid
- RD298** Reducing the microbial counts on turkey carcasses using lactic acid
- RD299** Whole room disinfection
- RD300** Rapid methods for analysis of sodium in bread
- RD301** Analysis of mycotoxins in cereals
- RD302** Fungal behaviour at cold temperatures
- RD303** The Napping technique: a rapid alternative for acquiring a sensory map of products

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## welcome... to new members

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

**Avon Vale (UK) Ltd** - supplier and distributor of long-life cakes, biscuits and morning goods

**Biolink Ltd** - manufacturer and supplier of cleansers, sanitizers and DEFRA approved disinfectants to agricultural markets

**Burns Pet Nutrition** - manufacturer and distributor of pet food

**Cool Chile Ltd** - producer of Mexican sauces and manufacturer of corn tortillas

**Elveden Estate & Farms** - own label producer of jams and chutneys

**FEI Foods Ltd** - manufacturer of own label microwaveable rice and pasta products

**Geary's Bakeries Ltd** - producers of bread, rolls and scones

**Lewes District Council** - local enforcement authority

**Peppercom Catering** - catering food/service business

**R & K Drysdale** - grower and processor of swedes and sprouts

**Rainbow Dust Colours Ltd** - manufacturer of glitters, powders and edible colour products for the food industry

**T & L Sugars Ltd** - a cane sugar refinery

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Please notify the Membership Department of any name or address changes with respect to our mailing list.