

# Newsletter

November 2011



## Opportunities knock

We are establishing projects in two very different research areas - aeroponics and meat discoloration - and are looking for interested parties. Please get in touch if you are interested in finding out more.

### Meat discoloration

The apparent light-induced discoloration of cooked meat products whilst on display in retail stores is proving to be a problem and leading to a lot of waste product. Cooked, sliced meats such as ham and salami have been found to be susceptible to this problem, but the issue may also affect other types of meat. As customers are shying away from buying the affected packs, we are setting up a club project to better understand the cause and identify potential remedies. In particular we will assess the effect of potential changes in store lighting from fluorescent tubes to LEDs.

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### Aeroponics

Aeroponics is a system in which food grows with no soil and only 5% of typical water requirements. Yields for the system may be up to 5 times greater than conventional farming, and it can be used on non-farm land (and even on rooftops or in desert conditions). We are seeking partners for a trial programme in collaboration with AirFarm, the developers of the technique, with the objective of ascertaining whether the high yields are indeed achievable, and then optimising the system from cost, reliability, quality and yield perspectives.

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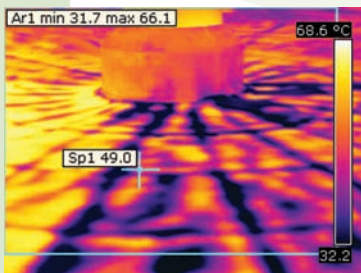


## Service...

# Cutting the cost of hotspots

In the production of brewing malt the kilning process is by far the largest user of thermal energy, at over 90%. It is therefore well worthwhile for each maltster to examine kilning operations for any opportunities to increase energy efficiency, especially given rising fuel prices and climate change. We have recently employed a thermal imaging camera in malt kilns at a large European maltings in order to identify heat distribution - with a view to identifying energy savings.

Thermal images (temperature images) were taken using a portable thermal imaging system to measure temperatures on the top of the grain bed and also around the kiln structure above the bed. The system, capable of measuring approximately 77,000 temperature points (in the form of pixels) per image, was well suited to identifying the temperature and location of any hot/cold spots since it is able to measure to less than 0.1C°.



The results demonstrated how the technology allows immediate identification of thermal inefficiencies in the process. Thermal imaging could also be used to test the efficacy of hot

processes, notably cleaning, and energy losses from processes involving refrigerant or heat.

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## Indonesian trade visit

We were very pleased to host a visit from the Indonesian Ministry of Trade on 29 September. The delegation was led by Mrs. Husniaty, Director of the Centre for Quality Control of Goods, who is in charge of all government laboratories reporting to her Ministry, including food laboratories. Food safety and food testing is one of the priority areas in Indonesia, and they are looking for new co-operation partners in Europe.

## A new market beckons



We have identified a major overseas business opportunity for UK companies. The South Korean Government is offering significant incentives for companies who wish to establish a base in Korea to support or trade in the major food market of north-east Asia.

A preliminary meeting facilitated by Campden BRI's Science Director, Martin Hall, featured a presentation from Pascale Yoon of EACA (EU Asia Cooperation Agency) which outlined the opportunities. This attracted significant interest.



*Delegates at the FOODPOLIS meeting with Pascale Yoon*

A further meeting is planned to be held during December in London to describe and discuss these exciting opportunities in more detail. If you are interested, or would like more information, please get in touch.

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## Campden BRI - approved seafood training site

We have been approved by Seafish, the industry body on fish and seafood, as a centre for seafood quality assessment training. This means that we can organise such courses delivered by Seafish-approved trainers.

And, following our successful course earlier in the year, we are doing just that - from 28 November to 2 December. This five day training course has been developed to significantly enhance delegates' theoretical knowledge and practical skills in assessing the quality of key fish species. The programme consists of up to 8 hours of focused theory and over 20 hours of intensive 'hands on' practical sessions,



delivered by Seafish approved trainers. For more details see [www.campden.co.uk/training/advanced-seafood.htm](http://www.campden.co.uk/training/advanced-seafood.htm)

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## 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 **Membership main contacts**

Do you know who your company main contact is? Within every membership we have a nominated "Main Contact", who is the recipient of our initial joining instructions, including "username" and "password" for website access, and your Membership Certificate. The Main Contact is the person who we contact to clarify any membership issues, such as address or name changes and alterations to the membership coverage. So this person is important to you as well as to us. If you are uncertain who your company's main contact is, please give me a call.

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## Training courses

Now is the time to book on our scheduled training courses for early in the New Year. Courses for January and February 2012 include:

### January 2012

09-13	HACCP - advanced
18-19	Internal auditing - principles and practices
19	Beer appreciation
23-27	Food safety - advanced (level 4)
24-27	Pastry technology
25-26	HACCP - intermediate (workshop)
31-02 Feb	Basic microbiology

### February 2012

1-2	Food and drink labelling
07	HACCP - foundation
08-09	Microbiology for non microbiologists
20-24	ISO 22000 auditor/lead auditor (Cheshire)
21	Good hygiene practice and produce safety
21-22	HACCP - intermediate (workshop)
22-23	Brewery microbiology - an introduction
27-01 Mar	Sensory evaluation workshop
27-02 Mar	Principles of canning
29	HACCP auditing - foundation

**Contact:** training@campden.co.uk +44(0)1386 842104

## The power of ultrasound

Power ultrasound has many potential applications in the food industry. Our work so far has shown that ultrasound technology can potentially improve heat and mass transfer in downstream processes. It could, for example, allow users to increase soluble solids content in feed-stocks for spray driers, thereby significantly increasing spray drier capacity. However, there are many other possible applications, and we are keen to hear from industrial clients who have a specific objective in mind that they would like to explore.

### Potential to modify viscosity

It has been reported that ultrasound also has the potential to modify the viscosity of food products in order to enhance the efficiency of downstream processing. The viscosity of a food product can have significant effects on process efficiency and product quality. Temporarily thinning products prior to any process that is rate limited by viscosity could greatly improve efficiency, which could in turn lead to improvements in energy efficiency, and product sensory and nutritional quality.

We have already carried out work on the effect that treatment with power ultrasound has on the viscosity of food thickeners, such as when modified starch, xanthan gum and guar gum are pumped through a test system. A flow cell was used to pump the sample past a sonotrode, with flow rates of 2.5-5 l/min. All treated samples were sonicated for up to 30 seconds, at a frequency of 20KHz, and viscosity measurements were taken directly after treatment, and after 4 and 24 hours to establish viscosity reduction and possible recovery.

In these trials there were significant viscosity reductions and the effect was dependent on residence time and power input - i.e. the strength of the ultrasound and the length of time the thickeners were subjected to it. However, in our research, the effect was not reversible - i.e. the thickeners remained 'thinned'. Work is ongoing at Campden BRI to find the conditions that permit reversible viscosity modification.

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## Eccelso - 100th member of the year



Eccelso recently became the 100th company in 2011 to become new members of Campden BRI. Eccelso specialises in three main areas: fats and margarines, frozen pastry, and a new vegetable suet that does not use hydrogenated fat. Gordon Kirkwood, Eccelso Managing Director, comments:

*"We are proud to be a member of Campden BRI. Although we have more than 40 years of experience in the development, production and application of fats and margarine, we need to be seen by our stakeholders, customers, suppliers and staff as operating the business to very best practice and stand at least equal to our peers. We need to be at the forefront of technological developments and legislation, and to be not only fully informed of developments in the scientific and legislative community, but also able to rely on technical support from a highly reputable and independent scientific organisation. Campden BRI with their unique reputation, not only in the U.K. but also in Europe, stands alone and offers us considerable security in the knowledge that we have on-going access to a wide variety of technical and scientific support."*

## Happy Birthday, CBP!

That's Chorleywood Bread Process for those of you not intimately familiar with it. This year sees the 50th anniversary of the announcement of the Chorleywood Bread Process (CBP). Developed by the British Baking Industries Research Association, one of the fore-runners of Campden BRI, the commercial uptake of this process had a dramatic effect on bread production in the UK, parts of Europe, South Africa and Australia. And to celebrate the event, a small group of people who were associated with the development got together at our Chipping Campden site on 14 October.

Compared with the earlier bulk fermentation process, the CBP was able to use lower-protein wheat and produced bread at a much faster rate. It did this by introducing an initial period of intense mechanical working of the dough using high-speed mixers. The CBP is now used to make 80% of the UK's bread, and helped to dramatically increase the market for UK-grown wheats. Without any need to hype the development, this really is an example of our research changing the way things were done.

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## Welcome... to new members

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

**Alphaone Ltd** - manufacturer of canned, ethnic ready meals

**B D Foods** - producer and packer of chutneys, sauces and relishes

**Eccelso Ltd** - manufacturer of fats and frozen pastry

**Fat Duck Experimental Kitchen** - food development kitchen for The Fat Duck restaurant

**Hospitality Services** - University of Bristol - Catering & Conferencing division

**Mary Clark's Pies Company** - manufacturer of meat pies and pasties

**Oliver James Foods** - manufacturer of sous vide products and savoury pastry

**Rademaker BV** - manufacturer of baking equipment

**SPL International Ltd** - specialist in sachet packing of ingredients for home kit markets

**UK Snacks Ltd** - manufacturer of ethnic snacks, salted and roasted nuts, fruit and nut mixes

**World Wise Foods Ltd** - canned goods agent and facilitator

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

