

Newsletter

August 2013



Energy reduction in baking

Energy demands in the bread making process are dominated by the oven step, and so there are financial and environmental benefits to reducing the baking time. Recent member subscription-funded research has shown how this can be achieved.

Baking of bread traditionally targets a core temperature of 94-96°C, based on microbiological, enzymic and structural criteria. Anecdotal evidence suggests that this may be higher than necessary for some breads. Using white pan bread, this work investigated the impact of reducing bake time on bread quality, specifically loaf volume, texture, extent of starch gelatinisation and bread structure. For the target bread to contain similar moisture levels to existing bread, and with less water evaporated by the oven, water levels needed to be reduced in the recipe. This was achieved by using higher dough temperatures during mixing so the dough was softer for equivalent water.



20% reduction in bake time

A 6 minute reduction in bake time (equivalent to 20%) resulted in bread in which the starch was gelatinised and all other textural and structural parameters were similar to those for the full bake time, although an increase in oven temperature from 240 to 250°C was required to achieve the crust colour and strength. Operating to a lower core temperature will lead to energy reductions during the baking process. Further energy reductions can be achieved in mixing and proofing if lower water content but warmer dough is used.

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To receive a copy of the report on this work,
send an email to auto@campdenbri.co.uk
with the subject line: **send RD350**

Your partner for
sustainability



Hungary

Dancing to a different beat

Our colleagues in Hungary are currently involved in the SALSA project, "Eco-challenges in the food chain of the Latin American region", financed by the EC (FP 7, KBBE-2010.2.5-02, Project reference: 265927). Its overall objective is to help Latin American countries with the environmental challenges (deforestation, CO₂ emissions, reduced biodiversity, water-air-soil pollution, reduction in food security) they face related to farm production and food chain relationships with the EU, and enhance added value and competitiveness within the food chain.

Its specific tasks are to:

- Increase the Latin America and EU food chain's social, environmental and economic sustainability
- Improve access of SMEs and small agro-food producers to local and EU sustainable food export markets
- Enhance the food chain's agents' relationship efficiency, both in terms of knowledge exchange and efficient trading relations, in Latin America and the EU
- Promote quality and quantity of information to EU and Latin American policy makers, support education and raise awareness of the need for an effective food policy oriented to sustainability
- Promote the quality and quantity of information to EU and Latin American consumers and raise the awareness of the impact of sustainable food production and consumption on their living conditions

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www.salsaproject.eu

Project Coordinator: Prof. Cesare Zanasi, Bologna University, UNIBO, Italy

Project date: 1 May 2011 - 1 May 2014.

Plastic packaging and shelf life workshop

Decisions about which polymers to choose and dimensions for food and drink packaging are often based on trial and error or intuition. Our *Plastic Packaging and Shelf Life Workshop*, running on both 11-12 and 15-16 October, will discuss the basic principles behind polymer selection, deteriorative reactions in foods and shelf-life. The properties of the newer biobased polymers such as PLA, PGA and PHA will also be discussed.

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Debbie Parker - Sommelier



Dr Debbie Parker, Brewing Division Sensory Manager, has become one of only 37 accredited Beer Academy Sommeliers in the world. Becoming a member of this illustrious group means Debbie is a qualified expert in beers; this encompasses everything from styles and flavours to food matching and brands - something Debbie already has a wealth of experience of.

Debbie commented on her achievement: *"I am delighted to become one of only eight female Beer Academy Sommeliers in the world. This award recognises the knowledge and experience that I have gained working in brewing over the last 25 years and further enhances our credibility within the industry, in particular when running training courses or tutored tastings".*

Gordon Jackson, Head of Brewing Services at Campden BRI, said: *"It is very important to the company that Debbie has achieved the prestigious status of Beer Academy Sommelier. It enhances our reputation as a leading brewing research centre and improves the service that we offer to clients, for example with beer and food matching."*

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September events and training

A list of 2013 courses is available at
www.campdenbri.co.uk/training.php

- 4-5 Food and drink labelling
- 5 HACCP (foundation)
- 9-12 Sensory evaluation (workshop)
- 10 Brewery microbiology (advanced)
- 10-11 Bakery - back to basics
- 10-11 HACCP - intermediate (workshop)
- 10-12 Basic microbiology
- 12 HACCP auditing (foundation)
- 16-20 HACCP (advanced)
- 17 Weights and measures
- 17-18 Principles of pasteurisation
- 18 Beer appreciation
- 18-19 Laboratory quality systems (introduction)
- 18-19 Microbiology for non microbiologists
- 19 Documentation and design of quality systems
- 23-27 FSMS Auditor/Lead Auditor training (ISO 22000:2005)
- 24-25 Brewery microbiology (introduction)
- 24-25 HACCP - validation and verification
- 24-25 Internal auditing - principles and practices

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YOUR M&S Millennium prize

The Marks and Spencer Millennium Prize is to recognise an early career scientist, technologist or engineer employed at Campden BRI who has the potential to positively impact on the food, drink and allied industries. This year, the prize has been awarded jointly to **Namrata Chowdhury** for her work on brewing analysis method development, and **Rachel Gwinn** for her product development support and problem solving for SME's.



Namrata Chowdhury



Rachel Gwinn



Sustainability



More information at:

www.campdenbri.co.uk/sectors/sustainability.php

Intervening to change behaviour blog by Peter Burgess
www.campdenbri.co.uk/blogs/intervention-studies.php

Sustainable crop production: are we there yet?

Seminar on 19 November 2013 training@campdenbri.co.uk
+44(0)1386 842104

Sustainable crop protection podcast by Richard Stanley
www.campdenbri.co.uk/podcasts/sustainability-crop-protection.php

Feature

Water, water everywhere



And soon it may even be possible to drink some of it! Two specific projects in which we are involved - one member-subscription-funded and one European project - are looking at water use and reuse. Anke Fendler is the Campden BRI project manager for both:

The objective of the European Commission-funded project is to develop, test and validate new

approaches and technologies for water treatment and reuse of effluents in the chemical industry. This will be highly relevant to other sectors, such as the food industry. We are using a combination of waste water treatment and biocidal technologies to treat and recycle the highly concentrated wash water in a liquid detergent site. Campden BRI will be advising on the microbiological safety of water reuse by applying knowledge gained in the food industry.

Impact of disinfection methods

In a first step, the storage and re-entry requirements for the water to be reused have been defined, taking into account current food industry practice. Several biocidal technologies are now being tested for their effectiveness in reducing the number of microorganisms in a variety of detergent samples. The impact of the disinfection methods on the integrity of the products will also be evaluated.

In our member-funded project we are pursuing the use of non-potable water as a potential alternative to the use or reuse of precious potable water in certain circumstances. Again, the risks associated with using such water need to be assessed - with hygiene, and chemical and microbiological contamination issues being of particular concern."

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Hear Anke talking about these issues in a podcast on our website at www.campdenbri.co.uk/podcasts/water-use.php

Members



This page highlights the latest news and information for our members.

Visit Member Zone to access privileged member information and services www.campdenbri.co.uk/memberzone.php

Welcome to new members

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

Actemium - industrial solutions provider

Banham Poultry Ltd - processor and packer of fresh and frozen chicken

Boulder Brands UK Ltd - gluten-free bakery

Hereford Contract Canning - beverage producer and can packer

Hider Foods Imports Ltd - producer and packer of nut/fruit mixes

Irish Dog Foods - producer of dog and cat treats

Italia Formaggi Ltd - importer and seller of Italian cheeses

J E Wilson and Sons Ltd - manufacturer of chocolate confectionery and mint cake

Kinnerton Confectionery Co Ltd - confectionery manufacturer

Lockwoods Ltd - manufacturer of frozen mushy peas

Macduff Shellfish (Scotland) Ltd - shellfish processor

Medilink (South West) Ltd - health technology business support organisation

SASS Products Ltd - producer of non alcoholic-shot beverages

Twenty Five Square Centimetres Ltd - developer of hygiene inspection equipment

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

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Here to help

Our membership team is available to take queries or questions about your membership.

Contact Clare Brett on +44(0)1386 842125
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New web pages

Bring together information on our many activities on novel processing and

preservation into one easy-access point. Visit www.campdenbri.co.uk/new-technologies.php for details on this project as well as links to features on technologies such as pulsed light, cold plasma, high pressure and power ultrasound. You can access podcast and video clips and the full text of New Technologies Bulletins and Updates back to 2002.

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Keep up to date with research

New Reports recently published, giving extensive details of the results of member subscription-funded research.

Reduction of food and packaging waste within the supply chain (RD345)

Development of new methods to characterise flour functionality (RD346)

A consumer based approach to set, confirm or extend the shelf-life of food products (RD347)

Encouraging positive consumer attitude/behaviour change towards sustainable foods: literature review (RD348)

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.



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