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Consumers and ethical purchasing

Findings of a study to assess the way in which consumers trade-off on-pack information will help industry to better understand the impact of ethical and environmental concerns on pre-purchase decision making.

Using eggs, milk and tea as example products in a choice-based conjoint study, consumers weighed up ethical and environmental issues, such as free-range, fair-trade, organic and recyclable packaging, against other product characteristics such as health, flavour, and price. Respondents to the online survey were asked which of four alternative combinations they were likely to purchase, in ten different choice tasks.

The 253 people who participated were allocated into one of four shopper groups, based on their attitudes towards ethical and environmental issues: Deep shoppers, Intermediate shoppers, Shallow shoppers and Environmentally Focused shoppers. Deep shoppers showed a high preference for purchasing free range eggs and fair-trade tea, despite these products being placed in a higher price category. The other groups were less likely to purchase these two products.

Across all groups, organic milk was the least preferred milk product. Recyclable information on packaging was not a consideration for all respondents. Although packaging was considered to be the most important issue on food and drink products in prior focus group studies, it did not appear to influence pre-purchasing decision-making.

Contact: **Michelle Chen**
+44(0)1386 842238
m.chen@campden.co.uk



Feeding the armed forces

We are delighted to have been awarded a 2-year extension to our current contract with the Defence Food Services Integrated Project Team on behalf of the Ministry of Defence (MoD), to provide technical services in support of their quality assurance management for the United Kingdom Armed Forces.

A vital part of this work is to provide specialist advice on food, packaging and legislation issues for specifications used to guide companies tendering for contracts to supply products. Products are then subjected to sensory profiling, microbiological and nutritional analysis, and rigorous integrity testing of packaging. We also monitor shelf-life of a variety of ambient stable foods stored in readiness for distribution across the world. This ensures that the food supplied is safe and that quality is not compromised.

Contact: **Susan Rogers**
+44(0)1386 842230
s.m.rogers@campden.co.uk



Trouble with nuts

Product recalls due to microbial pathogens are becoming a problem for those using nuts and seeds in their products. There have been several high-profile incidents recently. A new Club is being proposed to address this emerging problem. Recent UK product recalls have included peanut

butter, snack bars, peppercorns, sesame seed paste, shelled nuts and seed mixes, including sesame seeds, all for the presence of *Salmonella*. These and other incidents have generated considerable discussion within the sector regarding how best to manage these risks. This Club will address the issue and will focus, in particular, on the possible validation approaches for the various commercially available systems that exist for nut and seed decontamination. New knowledge on this topic will enable us to further develop our services on thermal process validation using microbial methods, time-temperature integrators and traditional temperature measurement-based methods.

In addition, there will be a seminar to discuss these issues, on 11 March 2010 at Campden BRI.

Contact: **Craig Leadley** +44(0)1386 842059 c.leadley@campden.co.uk

Hygiene methods club

There has been much interest recently in updating our guidance for the food industry on standardised methods for taking environmental samples for hygiene testing of surfaces, people, packaging, air and process water. To address this we are setting up a Club to update our existing Guideline 45 - *The manual of hygiene methods for the food and drink industry* - which was originally published in 2003. Retailers, food manufacturers, and those developing commercial sampling methods are invited to help steer and fund the project as Club members.

Contact: **Debbie Smith**
+44(0)1386 842204
d.l.smith@campden.co.uk



Service FEATURE



Raw material services

With the world focusing on the sustainability of food provision, the need to optimise primary production and raw material supply has never been greater. Whether it be the debate over the merit of organic systems and integrated crop management, or the desire to tailor crops for specific end-points, we have a wealth of expertise to help the food industry. Richard Stanley, who has nearly 30 years' experience in our Agriculture Department, explains:

"We have been involved with trials assessing the suitability of fruit and vegetable varieties for different end-purposes (such as fresh, canning and freezing) for many decades, and also have a well-established protocol for assessing pesticide efficacy, including the





Research at Campden BRI

The 2010 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, with the subject line:

send RP2010

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 2009 were:

- RD274** Effect of mixing conditions on bread dough rheology and aeration
- RD275** A protocol to determine the effectiveness of moisture absorbers
- RD276** Effect of pH, sucrose, preservatives and storage temperature on growth of *Alicyclobacillus* species
- RD277** Safety and shelf life of modified atmosphere packed and vacuum packed chilled food products with respect to risks of psychrotrophic *Clostridium botulinum*
- RD278** Tailored process design for an acidified ambient stable product: a sweet and sour sauce
- RD279** Adolescent food choices and preferences
- RD280** FT-IR pyrolysis for the identification of rubbers
- RD281** Pulsed light for surface decontamination
- RD282** Effect of pH, salt and storage temperature on the growth characteristics of spoilage bacilli
- RD283** Process safety measurements for shellfish operations using time temperature integrators
- RD284** The effect of flour storage and bakery temperature on dough properties and bread quality
- RD285** Understanding the greenhouse gas impacts of food preparation and consumption in the home
- RD286** Exploring the potential to reduce heat processes for refrigerated extended life products
- RD287** Effect of temperature and pH on the thermal inactivation of *Bacillus pumilus*, *B. licheniformis*, *B. subtilis*, *B. megaterium* and *Paenibacillus macerans*
- RD288** The ecology of yeasts and moulds in food factories
- RD289** A protocol to determine the effectiveness of oxygen scavengers
- RD290** Assessment of the satiating effects of a fibre-enhanced preload



absence of taint in the harvested material. More recently we have been looking at how different growing regimes (such as fertiliser application, irrigation, and post-harvest storage) affect the level of key micronutrients in specific products - such as falcarinol in carrots. In particular, there has been much interest in general in increasing the antioxidant capacity of different fruits and vegetables by optimising agricultural inputs.

And, of course, we can adapt our knowledge and experience to almost any situation. We can advise on what quality (such as flavour, texture and nutrition) characteristics might be achievable in your harvested raw material, and on how you might achieve these characteristics - and then carry out trials in a scientific and structured way to assess which factors have the greatest effect on product quality."

As well as specific quality and processing characteristics, we can also give practical advice on maximising product yield, and in managing microbiological, chemical and physical hazards during production and post-harvest. We also provide an advisory service on the latest pesticide legislation, including what can and can't be used, and maximum residue levels.

Contact: **Richard Stanley** +44(0)1386 842004
rstanley@campden.co.uk



Contact: **Tim Hutton** +44(0)1386 842047 t.hutton@campden.co.uk

Campden BRI

Station Road
Chipping Campden
Gloucestershire • GL55 6LD • UK
Tel: +44(0)1386 842000
Fax: +44(0)1386 842100
www.campden.co.uk

Nutfield site:

Centenary Hall
Coopers Hill Road
Nutfield
Surrey • RH1 4HY • UK
Tel: +44(0)1737 822272
Fax: +44(0)1737 822747
www.bri-advantage.com

Advanced training for millers

We are delighted to be involved in the second running of the prestigious Advanced Milling Diploma programme, which is organised by **nabim**, the National Association of British and Irish Millers. The programme was developed with the aim of providing a practical and technical training programme significantly beyond the level of existing correspondence courses, in order to help produce the 'leading millers' of the future. It involves two 5-day residential courses, the first of which is held at Campden BRI (the second is at the Bühler Training Centre in Switzerland), as well as an extensive research/dissertation project. Nigel Bennett, **nabim** secretary, commented:

"We are pleased to be associated with Campden BRI in the running of the Diploma. Their training and pilot plant facilities, and technical know-how and experience in milling and baking activities mean that they are perfect partners for delivering the objectives of the programme: to develop millers of the highest potential, and to improve the industry's skills base through a greater understanding of flour functionality and application of theoretical knowledge into practical skills."

Contact: **Sam Millar** +44(0)1386 842157 s.millar@campden.co.uk

Natamycin in wine

There have been a few instances recently of wine contamination with natamycin. This is believed to be due to cross-contamination with residual sterilising agent from the cleaning of transport and storage tanks. We have been listed by the Food Standards Agency as one of only two laboratories able to carry out the analysis of natamycin in wine.

Contacts:

Campden site **Nick Byrd** +44(0)1386 842189
n.byrd@campden.co.uk

Nutfield site **Geoff Taylor** +44(0)1737 822272
g.taylor@bri-advantage.com

Food safety management for caterers

We have been appointed as partners to provide training in the Menu-Safe system - a highly effective food safety management system that is specifically tailored to meet the needs of food service operations. It enables rapid and cost effective compliance with international standards and can be easily integrated with existing HACCP and Good Hygiene Practice systems.

Andrew Collins explains: "This method is appropriate for operations of all types and sizes, including hospitals, schools, hotels and chains - even staff canteens. As well as being compliant with EU legislation, the approach has been acknowledged by Codex. It has been developed by Taylor Shannon International. We will be training managers and senior staff in companies, who will then implement the system and cascade the training to their staff in a way that is suitable for their business. We can also help with the implementation."

Contact: **Andrew Collins** +44(0)1386 842279 a.collins@campden.co.uk

WELCOME TO NEW MEMBERS

Campden BRI is delighted to welcome the following new members who joined in November 2009:

Bacon Wizard - a specialist bacon curing company

Borough of Poole - a local enforcement authority

British American Tobacco (Investments) Ltd - a tobacco company

G Bruce & Co Ltd - an importer and supplier of ingredients

Hand 2 Mouth Ltd - a manufacturer of fruit and nut cereal snacks

Monaghan Mushrooms - an Irish grower and packer of mushrooms

Orkney Salmon Company Ltd - a Scottish salmon harvesting company

Oxford Instruments Magnetic Resonance - a company specialising in the design, manufacture & support of hi-tech tools and systems

Steritrox Ltd - a company specialising in whole-room sanitising and decontamination processes

Tate & Lyle Food Systems - Hahn UK - a Welsh supplier of food stabiliser systems

The Kerrygold Company Ltd - a butter and cheese packing company

The Valspar Corporation AG - a French packaging coatings company

Contact: **Clare Brett** +44(0)1386 842125
membership@campden.co.uk