

PRESS RELEASE

New Campden BRI research improves oven efficiency, saving up to £14,000 on running costs

Campden BRI research into the flow of air in bakery ovens has helped in the development of a new oven system which is around 5% more efficient than a conventional setup oven.

The efficiency savings are achieved by balancing the way gases move into and out of ovens. By calculating the quantity of gas released during baking, Campden BRI has worked with Spooner Industries to balance air intake and exhaust flow, and improve the efficiency of ovens. Pilot tests and scale up calculations by Spooner showed that the modified oven reduced gas usage by 4.7% when applied to a commercial 3-section oven. This could save a bakery up to £14,000 for each production oven of this size.

Spooner is using the Campden BRI research to develop new optional energy saving oven modifications. The new system, which incorporates both gas flow optimisation and a heat recovery system, is ready for testing on a commercial oven.

Dr Gary Tucker, Head of Baking and Cereals Processing at Campden BRI said:

“Around 80% of UK bread production is dominated by high volume plant bakeries and the main use of energy in these bakeries is during the oven process. This research therefore has the potential to deliver substantial cost reduction and energy saving for the industry.”

The project was funded by Campden BRI in collaboration with the Regional Growth Fund and with support and advice provided by the Carbon Trust.

Campden BRI (www.campdenbri.co.uk) provides technical, legislative and scientific support and research to the food and drinks industry worldwide – with a comprehensive “farm to fork” range of

services covering agri-food production, analysis and testing, processing and manufacturing, safety, training and technical information services. Members and clients benefit from industry-leading facilities for analysis, product and process development, and sensory and consumer studies, which include a specialist brewing and wine division.

*** Ends ***

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Notes to editors

1. An accompanying photograph is available from Mr Tim Hutton, Campden BRI, Station Road, Chipping Campden, Glos. GL55 6LD, UK. tim.hutton@campdenbri.co.uk +44(0)1386 842047
2. [Campden BRI](#) specialises in the practical application of technical excellence to support the food and allied industries through analysis and testing, operational support, research and innovation, and knowledge management. It is the world's largest membership-based food research organisation, with over 2400 members from around 80 countries. It has nearly 400 staff based at its three sites: Chipping Campden (Headquarters), Nutfield (Surrey - brewing division), and Budapest (Hungary).
3. Its activities include assuring the safety of food and drinks, [food processing and manufacturing](#) support, [food analysis and testing](#), [training](#) and [publishing](#). Each year it hosts hundreds of business visits and trains around 6,000 people from food and drink companies worldwide. Further information on its activities can be found at www.campden.co.uk
4. Expertise at Campden BRI includes:
 - a. [manufacturing technologies](#) - food processing (heating, chilling, freezing), aseptic technology, [microwave heating](#), [malting and brewing](#), [milling](#), [baking](#) and extrusion technology, and process control and instrumentation, [packaging technology](#)
 - b. safety assurance - including [hygiene and sanitation](#), [microbiology](#) and preservation, processing technologies, analysis and testing (microbiological, chemical), and quality and safety management,
 - c. [product development](#) and quality, [consumer studies](#), market insights, [sensory science](#), [authenticity testing](#), shelf-life evaluation, labelling and [legislation](#)
 - d. [agri-food production](#), ingredients, raw materials, raw material technology,
 - e. underpinning science - [cereal science](#), [microbiology](#), [chemistry and biochemistry](#), molecular biology
5. Facilities at Campden BRI include:
 - a. 3,000 sq m of laboratories for food and drink microbiology, hygiene, chemistry, biochemistry, molecular biology, brewing and cereal science, and packaging technology
 - b. 3,500 sq m food process hall and [pilot plant](#) including malting and brewing, retorting, chilling, milling, baking, hygiene and packaging

c. 800 sq m of dedicated training and conference facilities