

PRESS RELEASE

Campden BRI gets X-ray vision

Campden BRI is strengthening its food analysis capabilities with a six-figure investment in a micro computed tomography (CT) instrument.

The new CT scanner will enhance and complement the suite of imaging techniques already on offer at Campden BRI by enabling their scientists to measure and image the internal structure of small samples in 3D at high resolution without destroying the sample.

The scanner, which works on the same principle as medical CT scanners, will be used to analyse a wide range of samples – including food, packaging and foreign bodies - which can be displayed as 3D views or cross-sections, and analysed to provide accurate measurements of 3D structures.

The CT scanner has many potential uses, for example it can measure porosity or how much air is inside an aerated product. It is important to know the porosity of a product because it affects its volume, texture and sensory acceptability. CT analysis can be used to measure the size and distribution of different components in a product with a composite structure, such as a biscuit with a chocolate coating or a crisp with salt on its surface.

The CT scanner also has non-food applications, such as packaging analysis to check that the dimensions are within the specifications or to image faults such as the seal between packaging components. A short video clip showing it in action can found at www.campdenbri.co.uk/videos/x-ray-micro-ct-scanner.php.

Dr. Alix Cornish, Research Scientist at Campden BRI, commented:

“Traditional 2D imaging techniques usually involve destructive sample preparation and the information

is often insufficient to draw conclusions regarding the 3D structure. We have been using X-ray tomography systems to help our clients develop new products for some time and are delighted to have a CT scanner permanently available in our imaging laboratory.”

Other imaging techniques available at Campden BRI include near infra-red hyperspectral imaging (which provides detailed maps of food and packaging composition), scanning electron and optical microscopy, and particle shape and size analysis.

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 and the associated video clip can be found at www.dropbox.com/sh/46zb9ngtmbmqc36/AADL8iS3KXp-uotR9inTU5oda?dl=0, or by contacting Ms Karen Jones, Campden BRI, Station Road, Chipping Campden, Glos. GL55 6LD, UK. Karen.jones@campdenbri.co.uk +44(0)1386 842204
2. [Campden BRI](http://www.campdenbri.co.uk) 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