Campden BRI: A Global Sentry for Food and Beverage Safety

Background and Operating Philosophy
Nestled in the historic English town of Chipping Campden, in Gloucestershire, Campden BRI traces its origins to the end of WWI. In 1919 it first opened as the Fruit and Vegetable Preserving Research Station, an affiliate of Bristol University’s agricultural and horticultural research department. Over the past century, Campden BRI has grown in stature and size to become the world’s largest membership-based food and beverage research organization with 2,400-plus members in nearly 80 countries.

Today, Campden BRI has a staff of nearly 400 scientists and business professionals based at three locations. Chipping Campden serves as the company’s headquarters and is home to state-of-the-art analytical test laboratories, food-and-drink pilot facilities and a sensory analysis suite. The brewing division, is located in Nutfield, Surrey, and includes a brewing and malting pilot plant. The company also operates Campden BRI Hungary, located in Budapest, which provides a wide range of expertise and research and development services for the food and drink industry in Eastern Europe.

To service the needs of such a diverse, global membership, Campden BRI conducts a comprehensive triennial consultation with its members in order to develop strategic themes. These themes become the research drivers for one or more of Campden BRI’s broad operating pillars: analysis and testing, operational support, research and innovation, and knowledge management.

According to Julian South, Head of Chemistry and Biochemistry at Campden BRI, the triennial member consultations “guide us in providing practical scientific, technical, and advisory services that help ensure product safety, quality, and process innovation throughout the food and beverage industry.”. “While much of that information is shared, we also conduct a significant amount of confidential research,” South says, adding that, “Those projects range from new product and packaging developments to risk management issues.”

A Focus on Food Safety and Authenticity
Two subjects that regularly top Campden BRI’s priority list are food safety and authenticity. “Product safety is an absolute imperative for food and drink companies,” South says. “In addition to chemical and microbiological analysis, we offer expertise in the investigation of the physical properties of food and drink, identifying any contaminants, authenticity, and verifying that products are what the labels say they are.”

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Head of Chemistry and Biochemistry at Campden BRI
That task, however, is increasingly more complex as adulterants and contaminants in ever-smaller amounts are becoming more difficult to detect. Campden BRI, for example, is currently analyzing olive oil using a number of analytical instruments, including a PerkinElmer Spectrum Two™ IR Spectrometer, to identify a range of lipid components. These tests will eventually determine if the olive oil grade declared on the label is genuine.5

**Detecting Nickel in the Food Chain**

Regulatory demands are also ratcheting up the analytical game in all areas of the food and drink industry, South says. “The European Food Safety Authority (EFSA), for example, is looking into the amount of nickel, in the food supply, especially in vegetables and drinking water,” he says.

To help detect heavy metals like nickel and other elemental contaminants in food, Campden BRI recently installed a PerkinElmer NexION 350D ICP-MS. “With the current interest in nickel … we will be able to offer the highest sensitivity for its analysis at a time when new limits are being considered by the EFSA,” South says. “The NexION 350 allows us to deal with challenging food types, where in the past, we encountered problems due to interferences between elements. This new ICP-MS complements our other analytical equipment, and is enabling us to process more samples, more quickly and to lower detection levels.”

**Looking to a Collaborative Future**

When asked what may be next on Campden BRI’s radar screen, South is quick to point out that the company is always on the lookout for new processes, equipment, and technical collaborations that maintain Campden BRI’s position as a global center of excellence for the food and drink industry.

“That is why we are already working closely with PerkinElmer to develop new testing methods for metals in the food and beverage industry,” South says. “We also hope to expand our relationship into the critically important areas of next-generation sequencing and traceability of ingredients and raw materials, and we are looking to expand our work in food and non-food forensics with the addition of an AxION DSA/TOF system,” he says. “As the scope of regulation continues to broaden and demands more support from analytical technology, we see a lot of shared value in working together with PerkinElmer for the benefit of both organizations.”

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**CAMPDEN BRI FAST FACTS**

1919

Fruit and Vegetable Preserving Research Station opens in Chipping Campden, in Gloucestershire, England, in 1919 as an affiliate of Bristol University’s agricultural and horticultural research department.

1920s

Creates the solution that led to the Campden Tablet that prevents fruit spoilage and remains popular in wine, cider, and beer making to kill bacteria and to inhibit the growth of most wild yeast.

1940s

Campden research facility spun off as a non-profit food research association catering to the global food and beverage industry.

1995

Campden merges with Flour Milling and Baking Research Association, which added milling and baking expertise to the mix of what now became the Campden & Choleywood Food Research Association, or CCFRA.

2008

CCFRA and Brewing Research International (BRI), a similar non-profit membership association specializing in beer and wine, join forces to create Campden BRI, the largest membership-based food and beverage research organization in the world.

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**References**