

Evidence Proforma
Food Authenticity Centres of Expertise

Campden BRI

What is your organisations particular area(s) of expertise in food authenticity testing?

Broad capabilities including the following specific expertise:

- Identification of meat, fish and seafood species
- Detection of allergens
- Detection of illegal dyes in spices
- Cereal variety identification
- Identification of olive oil grade (Extra Virgin, Virgin, etc.)
- Tariff Classification for import duty payment and VAT
- Detection of illegal distilled spirits (e.g. vodka, whisky)
- Analysis and calculation of meat content of complex foods
- Detection of frozen vs fresh meat
- Determination of drip loss in frozen seafood and addition of agar agar

Please highlight your organisations key skills and capabilities in this area and provide a justification as to why you feel it should be regarded as a Centre of Expertise? In particular you should focus on highlighting your key analytical skills and capabilities and any accreditation and how you ensure fitness for purpose testing. (250 words max)

We have been operating services in the area of food authenticity for over 20 years and have considerable knowledge of the following techniques which are applied in this area:

- Proximate nutritional analysis (e.g. protein, fat, hydroxyproline)
- Molecular biology
- Immunoassay
- LC/MS/MS for identification of trace contaminants
- GC/MS/MS and GC/QToF for flavour profiling
- ICP-MS for elemental screening and trace level detection
- HPLC and Dionex Ion Chromatography for sugars and sweeteners analysis
- Electrophoresis for cereal ID
- Light and electron microscopy with X-ray analysis
- FTIR microscopy

Our capabilities above have been operating for many years and we provide services underpinned by methods developed and approved in line with ISO17025. In many cases we have third party (UKAS) accreditation for these services and participate in method ring trials and third party proficiency testing schemes.

Briefly highlight your experience in method validation, data interpretation and evaluation and the reporting of analytical results? (150 words max)

We have developed many methods in-house where there are no standard or reference methods. These are validated and operated in line with the requirements of ISO17025. We have an internal quality system which ensures that all new methods are suitably validated and operated according to these principles. We operate routine analytical services in all areas highlighted above for a large number of clients within the food and drinks industry. In addition we provide an independent third part accreditation service CLAS (the Campden Laboratory Accreditation Scheme) for food industry laboratories to help them develop and validate methods to comply with industry standards.

Please provide brief details where possible, of your experience in dealing with complex technical authenticity challenges and evidence of your ability to provide solutions. (150 words max)

An example was the recent introduction of olive oil grade testing which was implemented in 2014. We were challenged with adopting IOC methods and setting these up from scratch, including validation. We operate this service routinely to supply a UK government contract (Rural Payments Agency). A further example was the development of a simple method for fish speciation based on Lab-on-a-chip PCR-RFLP, which is now a standard technique used by UK government enforcement laboratories.

Are you willing to provide advice on your areas of expertise and assist others through partnership working and sharing of information? Outline briefly your experience in collaborative working and how you could contribute to enhancing the UKs standing in the field of authenticity testing. (150 words max)

Where possible we are willing to provide assistance though this always needs to be balanced against commercial constraints. We already work in collaboration with many other organisations operating in this area and participate in many government and industry committees where food authenticity issues are discussed. We have strong links to industry and can provide an effective link between government and industry sectors. We are members already of the AMWG Technical Subgroup. We also contribute to European wide committees on behalf of HMRC where authenticity issues are discussed and decisions made for classification criteria for import duties.

Please provide a brief statement of your capabilities to be included on the virtual food authenticity network portal (50 words max)

Campden BRI is active in many areas of food authenticity testing including meat, fish and seafood speciation, olive oil analysis, and spice adulteration. Methods used include real time PCR, PCR-RFLP, DNA sequencing, immunoassay, ICP-MS, microscopy, and a wide variety of chromatographic techniques including LC/MS/MS and GC/QToF.