

Written evidence submitted by The National Measurement Laboratory (NML)

Introduction

The National Measurement Laboratory (NML), hosted at LGC, has been the Designated Institute for 'Chemical & Biological Measurement' within the UK, since 1988. As a national laboratory and PSRE¹ (public sector research establishment) based in a private limited company, we interact across the research, development and innovation ecosystem, bringing together diverse groups of stakeholders.

The work of the NML focuses on providing high quality world-leading science, to solve measurement problems and provide the resilient measurement infrastructure needed to support government, industry and protect consumers within the UK, as well as representing the UK's measurement interests internationally. We support businesses to innovate more effectively, faster and with less risk - through the application and translation of fit-for-purpose measurement solutions and standards. The NML also supports the role of the 'Government Chemist' (GC), which has a statutory function, which has been enshrined in UK law since 1875, as an independent referee analyst under a number of acts of Parliament focusing on public protection, value for money and consumer choice. In addition, the GC is a source of independent and impartial advice for both Government and the wider analytical community on the chemical and biological analytical measurement science implications on matters of policy, standards and regulations on areas including the quality of food and animal feed, medicines and chemicals.

Under contract to the Medicines and Healthcare products Regulatory Agency (MHRA), we host and operate the UK's Official Medicines Control Laboratory (OMCL) for chemical testing and British Pharmacopoeia Commission Laboratory. In addition, LGC the National Reference Laboratory (NRL)² in the areas of feed additives and GMOs (genetically modified organisms) and, following EU exit, was awarded the contracts for providing scientific assessment and evaluation of methods for the detection of new feed additives and GMOs, as well as those due for renewal, as part of the official authorisation process set in place within GB.

Response

To enable the Food Standards Agency (FSA) and the Health and Safety Executive's (HSE) to address the full extent of the regulatory changes following EU Exit, particularly in addressing the capacity and skills challenges, they will need to make most effective use of the expertise that currently exists within the UK system.

We routinely observe first-hand how important it is to have the right stakeholders from across the system engaged, from the beginning, to ensure the most effective and fit-for-purpose solutions to regulatory challenges can be found that both protect the safety of the public and limit the burden on companies.

¹ Royal Society (2020). A list of public and non-profit research organisations in the UK. <https://royalsociety.org/-/media/policy/Publications/2020/2020-09-list-of-public-and-non-profit-research-organisations.pdf>

² <https://www.food.gov.uk/about-us/national-reference-laboratories-nrls>

Measurement will be crucial in supporting the expanded roles of UK regulators, particularly across the areas of chemicals regulation and food and feed safety. Better measurement and standards play a significant role in supporting the implementation of regulation, ensuring it is effective, as well as aiding de-regulation. This creates and allows for opportunity, if performed reliably. The UK's measurement institutes work extensively with regulators to ensure that new or revised regulations reflect measurement best practice and that their enforcement is supported by appropriate measurement capabilities and standards.

Through the GC advisory function, we also work with government stakeholders to support the resilience of the UK official control system. Examples include:

- Our work on cannabidiol (CBD) and controlled cannabinoids in food and cosmetics^{3,4,5,6} bridged the silos of government departments (Home Office, BEIS, OPSS, FSA, FSS, Defra, Dstl). By bringing together all the different actors from the start and identifying common needs, we were able to provide the necessary underpinning measurement research and advice that addressed a variety of regulatory questions for the UK, increasing the efficiency of our research outputs, removing the need for duplication and ensuring a framework for continued collaboration. Our work was used by the Home Office Advisory Council for the Misuse of Drugs (ACMD) in setting unavoidable trace levels for specified controlled cannabinoids within consumer CBD products, and their report credited the GC for “providing the main evidence for the practical capacity for the analytics industry to test”.
- In support of the FSA's 'Vision for the Future'⁷ and following the FSA Official Laboratories review (Phase 1⁸, Phase 2⁹), the GC will be conducting a centralised annual survey of official control laboratories (OCLs) to assess their official food and feed control measurement capability in light of EU Exit. This survey will be used to assess current capability, any potential gaps, or emerging risks, and identify areas required for method development or training. It will also provide them with an opportunity to highlight key concerns they might have and outline any requirements for future capability.
- To disseminate knowledge from government funded research to stakeholders, the GC set up the Joint Knowledge Transfer Framework for Food Standards and Food Safety Analysis. This is a cross-government (Defra, FSA, FSS, BEIS) initiative that aims to support UK laboratory capability and best practice in food safety and standards analysis via training activities. The ongoing outputs of this collaboration are freely available on the GC website¹⁰.

The establishment of FSA NRL and authorisation roles post EU Exit are prime examples of the importance of measurement in regulating in the UK in a robust but fit for purpose manner.

- The labelling threshold for UK-authorized GMO varieties distinguishes between adventitious contamination and deliberate adulteration. This threshold is on an ingredient-by-ingredient basis and includes trace detection. The successful labelling of GMO food and feed produce is

³ Government Chemist (2021, Jan 13). Guidance on analytical limits for controlled cannabinoids.

<https://www.gov.uk/government/publications/guidance-on-analytical-limits-for-controlled-cannabinoids>

⁴ Walker et al. Cannabinoids – a Tutorial Review. Journal of the Association of Public Analysts (Online) (2021) 49:1-028.

⁵ Government Chemist (2021, Jun 18). CBD and controlled cannabinoids: results from a ring trial. <https://www.gov.uk/government/news/cbd-and-controlled-cannabinoids-results-from-a-ring-trial>

⁶ Advisory Council on the Misuse of Drugs (2021, Dec 17). ACMD advice on consumer cannabidiol products.

<https://www.gov.uk/government/publications/acmd-advice-on-consumer-cannabidiol-cbd-products>

⁷ <http://www.foodlaw.rdg.ac.uk/pdf/2019-FSA-Board-lab-review.pdf>

⁸ <https://www.food.gov.uk/sites/default/files/media/document/review-of-official-control-laboratories-for-feed-and-food-phase-1.pdf>

⁹ <https://www.food.gov.uk/sites/default/files/media/document/phase-2-review-of-the-uk-food-and-feed-laboratories-summary.pdf>

¹⁰ <https://www.gov.uk/government/collections/knowledge-resources>

therefore dependent upon a reliable, stringent and efficient way of quantifying GMOs, whose foundation is ultimately underpinned by sound analytical measurement science. Via the NRL functions, we provide advice and support to food and feed enforcement laboratories and Competent Authorities to ensure a harmonised approach to enforcement.

- UK regulations for GMOs stipulate that for a GMO to be authorised for food or feed use, the applicant must provide a method for its detection for control purposes. Our GMO Authorisation role is to appraise and validate the detection method using best scientific measurement practice. The use of appropriate standards (ISO/CEN, as well as physical reference standards) combined with application of the latest and highly accurate scientific measurement principles, are fundamental in providing confidence in these assessments.

Measurement is an essential part of the technical standards that support product safety legislation. Based on these standards, industry needs to demonstrate conformity with essential safety requirements and enforcement agencies are required to act on unsafe products. Through our measurement expertise, we are able to provide advice and support to the Office of Product Safety and Standards (OPSS) in BEIS on product safety, particularly for chemical measurement to protect vulnerable consumers, for example in the areas of toy safety, childcare and cosmetics.

A further area of expertise is the Food Authenticity Network (FAN)¹¹, operated by LGC. FAN is the world's premier source of food authenticity methods and food fraud mitigation information helping protect the global food. FAN was set-up in 2015 by UK Government in response to recommendation 4 of the Elliott Review¹² and recently featured in the UK Food Security report¹³. FAN allows the UK to demonstrate global leadership based on experience and expertise gained by having a dedicated food authenticity research programme for 40 years. Recognition of our expertise is evidenced by the UK Deputy Government Chemist being selected to be the UK Co-Chair of the Codex Committee on Food Import and Export Certification and Inspection electronic working group on food fraud¹⁴.

Collaboration across government and with industry is increasingly being recognised as essential – and specifically mentioned in FSA's new five-year strategy¹⁵ – to ensure that stakeholders with the correct skills and knowledge provide the evidence based for government to make proportionate, fit for purpose policy, standards and regulations. A consistent and proportionate regulatory regime gives confidence to businesses, including those with new and innovative business models, and enables markets through the removal of trade barriers and unnecessary burden on businesses.

We have a long history of working with UK government to provide expert measurement advice and remain committed and willing to assist FSA, CMA and HSE in fulfilling their expanded roles post EU Exit.

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¹¹ <https://www.foodauthenticity.global/training-top>

¹² <https://st3.ning.com/topology/rest/1.0/file/get/1030798?profile=original>

¹³ <https://www.gov.uk/government/collections/united-kingdom-food-security-report>

¹⁴ <https://www.fao.org/fao-who-codexalimentarius/committees/ewg/detail/ru/c/1481114/>

¹⁵ https://www.food.gov.uk/sites/default/files/media/document/Delivering%20a%20better%20food%20system%20-%20FSA%20strategy%202022%E2%80%932027_0.pdf