



Food and Feed Law

The remit of the Government Chemist in the UK

Analytical arbitration, dispute resolution and supplementary expert opinion in the United Kingdom



Summary

In the UK the Government Chemist, appointed by the Secretary of State at the Department of Trade and Industry, provides an independent, expert service to resolve disputes between food control authorities and food traders on analytical results and their interpretation. The service also provides a second expert opinion if required and is often called upon by importers. The Government Chemist directs research and development work aimed at preventing disputes arising. If a dispute does arise he oversees referee analysis of the retained portion of a formal food or feed control sample to resolve the issue. The role of the Government Chemist as independent arbiter, or referee, in cases of analytical dispute was established in the UK over 150 years ago. Since 1996 the Government Chemist has existed as a public appointment at arms length from Government within a private sector company, LGC. LGC is also the centre for chemical metrology in the UK and is the UK National Measurement Institute (NMI) for chemical metrology. The independence of the Government Chemist is recognised by all and the impartiality of the office is conscientiously guarded and maintained by staff. The Government Chemist is seen as the independent arbiter who sits between the Regulator and the Regulated. This also supports the confidence felt by consumers and legitimate traders in the protection offered by the official food and feed control system and facilitates equitable trade. The Government Chemist's remit is complementary to that of Community and National Reference Laboratories



When food or feed samples are taken for formal official control analysis in the UK, national law requires the official control authority to give a duplicate sample to the food or feed trader (the 'owner' of the sample) so that they can have their own analysis carried out if they so decide. At the same time a third replicate sample must be taken. If the trader (the 'owner') disagrees with the results obtained by the official control laboratory, (the Public Analyst), the third sample (the 'referee' sample) may be sent to the **Government Chemist** for a definitive analysis. Here the Government Chemist provides a 'referee' function. This may be arranged in several prescribed ways:

- by agreement between the official control authority and the 'owner';
- by order of a court if legal proceedings have been commenced;

or

- since 2006, by virtue of Article 11(5) of Regulation (EC) 882 of 2004, the trader has the right to a second opinion by referral to the Government Chemist.

Similar arrangements exist in all member states. In some states two replicate samples must be taken and in others three. In the case of certain contaminants, there are specific European requirements for taking replicate samples for enforcement, trade (defence) and reference (referee) purposes [1].

In the UK the Government Chemist (GC), who is appointed by the Secretary of State at the Department of Trade and Industry (DTI), is a senior scientist in the Laboratory of the Government Chemist (LGC). The role of the Government Chemist as independent arbiter, or referee, in cases of analytical dispute can be traced back to provisions within the Sale of Food and Drugs Act of 1875, and the LGC was established over 150 years ago.

The LGC and the Government Chemist were once wholly within UK Government, but LGC was placed into the private sector just over 10 years ago. Therefore for the last 10 years the Government Chemist has existed as a public appointment at arms length from Government within a private sector company, LGC. The Government Chemist however, remains a focus for regulatory analytical science with statutory responsibilities under seven Acts of Parliament and many pieces of secondary legislation. These focus on the food chain, public safety and revenue protection. Over 150 years of corporate history and continuous experience over this timescale of referee issues, has maintained the ethos of independence, impartiality and consistency of approach whilst also maintaining state of the art analytical science capability. In recognition of this last fact, LGC is the centre for chemical metrology in the UK and is the UK National Measurement Institute (NMI) for chemical metrology.

As a public body the Government Chemist's programme must meet high standards of governance especially transparency and accountability. A website has been established, (www.governmentchemist.org.uk) along with a representative group, to advise the



Government Chemist on the discharge of his functions. The group, (The Government Chemist's Advisory Group, GCAG) includes representatives from official control laboratories, the food industry, and the UK Food Standards Agency. The Department of Trade and Industry which appoints the Government Chemist, has also appointed an independent advisor on the Government Chemist's function to sit on the GCAG. The independent advisor also gives the Department assurance on various matters including the quality of the science, the impartiality and the charges made for the work and to review progress in key areas. . By embedding within a private sector organization (LGC) critical mass and private sector skills of efficiency and value for money are attained.

The Government Chemist's remit is complementary to that of Community and National Reference Laboratories and mutually beneficial dialogue with the UK Official Laboratories Coordinator for Chemical Contaminants has been established to ensure a good working relationship with the NRLs and CRLs in this area.

The independence of the Government Chemist is recognised by all and his impartiality is conscientiously guarded and maintained by staff. The Government Chemist has to be seen to be the independent arbiter who sits between the Regulator and the Regulated. Often, costly court cases are avoided when the parties accept Government Chemist advice or referee analysis as definitive.

The Government Chemist's role as an impartial centre for sound measurement science includes a duty to advise Government and the wider analytical community on the analytical chemistry implications on matters of policy, standards and regulations. The advisory role as well as the maintenance of the capability to undertake the referee analysis is underpinned by research. This is identified on a rolling 3 year basis covering:

- Analytical Methods – where their development or improvement will prevent disputes arising, and

- Databases - where their development or updating will aid sound interpretation, (see note 2 below).

Over the past year advice was given to enforcement scientists, food traders and to overseas companies seeking information on analytical methods. In addition to underpinning research, the Government Chemist's team maintains staff training and experience, accreditation to ISO/IEC/EN 17025 (UKAS) and participates in proficiency testing schemes and collaborative trials.

Requests for referee analysis cover a wide range of sample types – for example – mycotoxins; meat products for meat and added water content; alleged adulteration of spirit drinks or alleged irradiation of food.

Independent arbitration by the Government Chemist supports the confidence felt by consumers and legitimate traders in the protection offered by the official food and feed control system and facilitates equitable trade.



Appendix

Casework Process Map

The following steps are an illustration of how a typical recent referee case is dealt with. The example chosen is an imported consignment (nuts or spices) alleged to contain excess aflatoxins.

- Request for analysis – advice is available on how to submit a sample
- Sample receipt and storage – chain of custody of sample is forensically important
- Case meeting to consider the issues
 - Allocation of resources
 - Administrative matters
 - Consideration of critical points – method, sample homogeneity etc
 - Contact food owner to check quantitative ingredients and any processing
- Analysis – statisticians are consulted on the analytical work plan (to ensure data obtained will be fit for purpose and a robust uncertainty value can be estimated).
- A typical work plan will consist of:
 - Triplicate analysis of case sample on each of three days;
 - Analysis of blank material to discover any interferences
 - Analysis of at least three overnight spikes of blank material on each of 3 days to determine recovery.
 - Analysis of CRMs where available
- Checks by Case Team and calculation taking into account any slurring of the product after sampling and, for example, the amount of nuts in a compound product
- Results and statistical evaluation including expanded uncertainty, U.
- Interpretation in terms of (mainly European) legislation
- Evaluation of fitness for purpose - Have we answered the question?
- Certificate drafted and checked for accuracy
- Second evaluation - certificate signed
- Certificate peer reviewed and countersigned by Government Chemist.

The signed certificate is sent to both the trader (owner of the food) and the official control authority. The target turnaround time for a routine aflatoxin referee sample is currently 20 working days but turnrounds of 13 working days have routinely been achieved. The body that originally requested the referee analysis is asked at the outset to agree to pay an administrative fee; this represents typically only some 5% of the overall cost. After a certificate has been issued both parties are formally asked to comment on the service



received from the Government Chemist, including whether they perceive the function to be independent.

Notes to the text

[1] Commission Regulation (EC) No 401/2006 of 23 February 2006 laying down the methods of sampling and analysis for the official control of the levels of mycotoxins in foodstuffs, A.3.6. Replicate samples

[2] Research projects currently running in the Government Chemist's laboratory are:

- Development of databases to underpin referee analysis of foods
 - Interim Nitrogen factor for Atlantic Salmon
 - Meat drip – assessment of the effect of meat drip cross contamination on the interpretation of meat speciation analysis.
- Methods for the determination of vitamins
- Methods for analysis of GM food and feed
- Traditional and herbal products
 - Echinacea
 - Ginkgo
 - Chondroitin
- Effect of sample preparation on the determination of aflatoxins
- Evaluation of methods of analysis for use in the official control of feed additives
- Fuel fraud detection
- Evaluation of the principal performance characteristics of methods for the detection and quantification of certain allergens in food
- Aflatoxins by LC-MS
- Lower levels of aflatoxins, OTA and nitrates (cereal based infant food)

For further information visit

<http://governmentchemist.org.uk>



THE INDEPENDENT ROLE OF THE GOVERNMENT CHEMIST



