

Under threat? Public Analysts and food control

Bob Stevens, Association of Public Analysts, explores the role of the Public Analyst in food control and calls for a new policy direction

The provision of food to the public is a complicated system involving producers and gatherers of raw materials at one extreme, providers of food at the other, and a structure of manufacturers, processors and distributors in between. The food industry is Britain's largest: the average UK consumer spends £22.92 on food every week, £1192 over the course of a year^[1]. Given the importance of food to health and the economy, it is imperative that it is safe to eat and perceived as such.

Consumer confidence in the food industry has suffered in the wake of highly publicised outbreaks of food poisoning, such as salmonella and listeria in the late 1980s and e-coli in 1996, and the ongoing uncertainty surrounding BSE. The need for stringent food safety controls and rigorous consumer protection cannot be underestimated.

The concern at the heart of this paper is covered in European Commission (EC) working document preliminary draft Min/138/02E on official feed and food controls^[2]. The paper is clear and unambiguous about the need for highly skilled, independent bodies and adequate facilities to guarantee the necessary level of protection:

'It must in particular be ensured that the authorities that are competent for performing official feed and food controls meet a number of operational criteria so as to ensure their impartiality and effectiveness. They must have a sufficient number of suitably qualified and experienced staff and dispose of adequate facilities and equipment to carry out their duties properly.'^[3]

It is similarly unequivocal about the requirement for adequate funds and resources to be devoted to food and feed controls:

'It must be ensured that adequate financial resources are made available for organising official food and feed controls'^[4]

This paper examines the role of Public Analysts in consumer protection and food safety within the context of the EC working document. As a lack of direction and insufficient funding threaten to undermine the work of Public Analysts, it calls for a rethink in strategy to safeguard the profession.

ABSTRACT

Public Analysts have played a pivotal role in food control and consumer protection for nearly 150 years. Yet, the profession is now under threat, as years of financial neglect and an absence of clear strategic direction undermine its work. Since the EU expects Member States to have highly competent and well-resourced food control bodies, the problem must be addressed. Public Analysts, local authorities and the FSA must get round the table and draw up a clear plan of action with agreed and appropriate levels of funding.

The role of Public Analysts

Public Analysts are the experts who analyse food (and animal feed) samples and inform Trading Standards Officers (TSOs) or Environmental Health Officers (EHOs) whether or not the samples comply with food law. If a serious fault exists, the Public Analyst will assist the prosecution by providing expert witness opinion on the analysis and interpretation of the analytical results. A Public Analyst's certificate of analysis is unique in constituting, of itself, evidence of the facts stated therein. Food Examiners have a similar role with regard to food microbiology. At present, Food Examiners tend to be found within the Public Health Laboratory Service (PHLS) in England and Wales, and in Public Analyst laboratories in Scotland.

There is a substantial amount of consumer protection legislation with which food and feed must comply, covering:

- Composition (such as minimum standards for chocolate, meat products, cheese, ice cream, bread and flour etc)
- Labelling (truthful name of the food, properly listed ingredients, quantitative declaration of key ingredients, accuracy of nutrition labelling)
- Claims (such as health claims and semi-medicinal claims for food products – the 'functional foods')
- Additives (preservatives, colours, sweeteners, emulsifiers etc)
- Contaminants arising from human activity (toxic metals, pesticides, polychlorinated biphenyls (PCBs), dioxins)
- Natural contaminants (mould metabolites, shellfish toxins etc).

Public Analysts are responsible for the analysis and interpretation necessary in the enforcement of the legislation controlling most of the above examples. Although rarely credited in the media, it is they who discover undeclared use of genetically modified (GM) foods, the pumping of water into imported frozen chicken meat, and the illegal irradiation of spices. It is they who challenge misleading claims on food labels, such as 'pure, natural, 95 per cent fat-free, made from succulent pieces of chicken breast'.

Public Analysts have a fundamental role in championing the cause of both purchaser and consumer. Their work also protects the ethical trader against unfair competition, and seeks to prevent the debasement of traditional foods and the misuse of established food names.

About Public Analysts

Public Analysts were created by Food and Drugs Acts of the 1860s and 1870s. At first, local authorities were only empowered to appoint such people – subsequently it became (and remains) a statutory requirement of county councils, London boroughs, metropolitan councils and unitary authorities to appoint one or more Public Analysts.

It is not, however, mandatory that they directly employ the Public Analyst. He or she can be an employee or owner of a private laboratory, which may or may not carry out work for other clients. Of the 27 Public Analyst laboratories presently operational in the UK, 18 are owned by local authorities, and nine are privately owned. These laboratories vary in size from ten to over 60 members of staff. They have annual budgets ranging from £400,000 to over £2 million. The local authorities responsible for enforcing food standards, of which there are approximately 120, send their work to one or more of the Public Analyst laboratories. Appointments vary in nature from indefinite to mere one year contracts, though the latter arrangements can dramatically hamper any long-term investment plan for facilities, staff recruitment and training.

The geographical distribution of laboratories was not planned; rather, it simply grew around centres of population as local authorities made appointments in the 1880s and 1890s. Closures and mergers in recent years have occurred without any national strategy to guide them. Consequently, present coverage is not optimum to provide a 'local' service. Similarly, the funds available in any one laboratory for new equipment or analytical techniques bear little or no relation to need. Some recent advances in capability have owed more to entrepreneurial approaches and even gambles than any strategic direction. For instance, several laboratories invested in equipment and training to perform analysis of food for GM ingredients. For some, this has paid dividends, yet for others it has not proved a good investment because of inadequate uptake of sampling by client authorities. This is not the way to manage the UK's food control laboratory system – consumers deserve and should have more certainty in such a vital service.

The minimum qualification for Public Analysts is defined in the Food Safety Act 1990. It is a post-graduate examination-based qualification administered by the Royal Society of Chemistry (RSC). It is known as the MChemA (Mastership in Chemical Analysis), and its syllabus and examination mechanism were

recently reviewed by the RSC to guarantee their continuing relevance to the needs of consumers and food law enforcement.

Candidates must first have a good degree or equivalent in chemistry. They then train for the qualification while working in a Public Analyst laboratory. It typically takes five years, and a minimum of three years, for someone to complete all the study and examinations and acquire the necessary experience to pass the examinations.

In 1989, the EC Food Control Directive, and, in 1993, the Additional Control Measures Directive were introduced to formalise the provision of necessary facilities and the engagement of experts. These directives specified among other things:

- The duty of Member States to identify Official Food Control Laboratories
- The minimum quality standards of such laboratories
- Minimum qualifications for food control officers

As a result of these directives, Public Analyst laboratories were required to adopt defined quality systems and to achieve accreditation to international quality standards. Having done what was necessary, they were notified by the Ministry of Agriculture, Fisheries and Food (MAFF) – the competent government authority at the time – to Brussels as Official Food Control Laboratories of the UK.

Funding

Despite what has been described as 'the key role of Public Analysts in food law enforcement'^[5], working in the interests of consumers and the ethical manufacturer, the continued existence of Public Analysts is under serious threat. The reason is a very simple one: money. The Association of Public Analysts (APA) has shown from annual surveys of samples received by its members in their laboratories that the average expenditure on their work has fallen steadily and now equates on average to a mere 12p per head of population per year^[6]. In some local authorities, it is substantially less.

Private sector laboratories are funded by fees paid per sample, while their public sector counterparts rely on a budget within the local authority. In the latter case, the budget is usually topped up with fees earned by the laboratory from external clients, such as other local authorities. However, the amount spent by individual authorities varies hugely, and is not currently subject to any standard or service guidelines. Examples can be found of local authorities covering large populations with sampling budgets of less than £10,000 at one extreme, and over £100,000 at the other extreme. The Food Standards Agency's (FSA) own data indicate that:

'(Local authority) sampling overall fell from a total of 190,000 in 1999 to 178,000 in 2000 – a drop of six per cent – and is part of a continuing pattern

that has seen total samples fall from almost one million in 1995^[7].

It is noteworthy that these figures include microbiology samples sent to the PHLS, which account for approximately half of the total.

The FSA has issued a standard for local authority food enforcement work^[8]. However, neither that standard nor the subsequent audits of local authorities have ever specified minimum levels of food sampling activity.

The net effect of specifying quality and qualification standards, but not activity levels, is to reassure industry that should a sample be taken, there will be no risk of prosecution as a result of an erroneous analysis. This may have been in tune with the 'old MAFF' industry sponsorship approach, but does not reflect a 'consumer protection first' stance. Unless there is specification of minimum frequency or amount of sampling, consumer protection cannot be demonstrated, and the continuation of the Public Analyst Service is severely jeopardised through lack of use and chronic under-funding.

No commercial laboratory operator can maintain a service while income from clients is steadily dwindling. There is certainly no scope for planning the purchase of expensive new equipment or investing in training staff on new techniques. Local authority laboratories are similarly being forced to demonstrate 'Best Value' and this means that many are being scrutinised on their spending in comparison not with the best in the field, but with averages or neighbouring authorities' spending. Quite how a laboratory is supposed to achieve excellence while its paymasters simply want to be no worse than average is a matter that local authority accountants and the FSA could be asked to explain.

At a time when structured co-ordination of effort is needed nationally, misguided application of 'Best Value' by some clients has forced laboratories into competing with each other for their supply of work. This is not helpful and leads to an inefficient use of taxpayers' money by reducing the analysis of food samples to a process dictated by cost rather than public protection. Even if this has secured some temporary financial advantage for a handful of local authorities, it has significantly undermined the spirit of co-operation needed among the laboratories if they are to develop specialisms and increase effective and mutually beneficial collaboration.

Similarly, professional and training activities in the Public Analyst Service have always been undertaken voluntarily for the good of all, but fighting for the crumbs of a diminishing cake is counter-productive, fostering rivalries rather than the co-operative, collaborative approach that is required. At a time when the Home Authority principle and the need to focus on factory inspection demand greater co-operation and more goodwill, this parochial penny-pinching is avoidably destructive.

Recent developments

Before the 1997 general election, Tony Blair commissioned Professor Philip James to prepare a report on the state of food law enforcement in the UK^[9]. This was in a climate of public concern over food quality, food safety and implementation of the appropriate control measures. The report was promptly prepared and was clearly considered around the time of Labour's coming to power. In the report, Professor James outlined his proposed structure, which foresaw Public Analysts sitting within a Food Standards Agency enclave.

Soon after this, MAFF ordered a review of the Public Analyst Service. This was duly carried out, against a very short timetable, by a team of industry, consumer and academic experts led by Alan Turner OBE^[10]. It was a matter of deep regret then and ever since that MAFF officials excluded considerations of funding from the terms of the review. The report was published, and was followed by reports on the Public Analyst Service in Scotland and Northern Ireland. In the meantime, plans for a Food Standards Agency were taking shape and first materialised in the Joint Food Safety and Standards Group (JFSSG), a merger of officials from MAFF and the Department of Health who were likely to constitute the bulk of the new FSA once established.

During the time devoted to this central re-structuring, the Turner Review of the Public Analyst Service received little attention from the officials responsible. The APA, however, took note of those recommendations which it could take forward by itself, including the introduction of a continuous professional development scheme for its members.

Since the advent of the FSA, the APA has persistently sought to advance with officials the recommendations of Turner, particularly national guidance on sampling activity, but so far without success.

Service demands

Some examples of recent food safety issues include:

- Nitrofurans (banned in the EC on safety grounds) in poultry from the Far East
- Acrylamide (a suspected carcinogen) in fried foods and other processed foods
- Chloramphenicol (antibiotic of restricted use) in imported poultry and shellfish

All of these new food contamination problems are subject to controls under UK food law for which local authorities and Public Analysts are responsible. The analytical work requires dedicated equipment and careful development work in the laboratory in order to ensure reliable results. However, a food authority with a sampling budget of only £10,000 cannot begin to fund such analyses on top of its other activities, and laboratories starved of resources cannot buy the necessary equipment. Two such items of equipment are a gas chromatograph linked to a mass spectrom-

ter and a liquid chromatograph linked to an advanced mass spectrometer, costing approximately £50,000 and £150,000 respectively. The Association of Public Analysts is not suggesting that such equipment be provided for every laboratory tomorrow (although history shows that one decade's new frontier kit becomes the next decade's commonplace). Instead, it has drafted a specification^[11] for a UK-wide network of laboratories, with specialisms agreed and shared with other laboratories, who would pass on samples as necessary for more demanding analyses.

Local authority problems

The funding of local authorities is a Mastermind subject in itself. In practice, they receive less than the amount needed to perform all the duties placed upon them. Funding via the revenue support grant mechanism cannot specify how much should be spent on food enforcement.

In 1990, with the introduction of the 1990 Food Safety Act, an extra £30 million was put into the system, representing a 25 per cent increase on what was already there. By extension, this means that there was a total of £150 million in the system at that time. Inflation enhancements over the next 12 years would seem to put this figure at over £240 million now, or roughly £4 per person.

Such speculation aside, there is a seemingly deliberate absence of firm direction from the Treasury on local authority spending, the intention being to allow local discretion and democracy to play a part. Current changes in the shape and operation of local democracy have absorbed a considerable amount of attention and effort, as have the Best Value and Continuous Performance Assessment initiatives.

With the re-structuring of local authorities into fewer but larger departments, Public Analysts, Trading Standards and Environmental Health have all become offshoots of a larger department such as Environmental Services, Central Services or Regulatory Services. With the abolition in many authorities of regular consumer protection committee meetings, the opportunities for elected members to contact professionals in the food control field have diminished. The 80 / 20 rule can be seen in operation, with most attention being directed at the 'more pressing' concerns such as education, housing and social services. Unfortunately, food quality and safety are not currently seen as priority issues within many local authorities, and it is likely that much of the £240 million estimated above goes to many other wholly unrelated local authority activities. The James Report recognised the problem of uneven levels of enforcement through local competition for funds. Professor James recommended that all food enforcement funding be channelled through the new Food Standards Agency. While some authorities deliver an

excellent service in food control, there is a fundamental conflict between local discretion (unguided at present) on levels of food law enforcement expenditure and the national need for consistent, high-quality services which co-operate closely.

Options for the UK

Given the current absence of direction and inadequate funding of food safety controls and food law enforcement, action must be taken. At present, options would seem to be:

- 1 Support the present system. The EC has expectations of Member States regarding food control that are clearly set out in the Directives^[12,13]. Member States also have a duty to the Commission and the new European Food Safety Authority. It is not an option for the UK to decline to participate, or to participate inadequately, in EC food control activities. This means having food control officers and official food control laboratories as specified and defined in the Additional Measures Directive^[14], with adequate funding provided as identified in the new Directive now being drafted^[15].
- 2 Re-assign responsibilities for activities such as food analysis and possibly food sampling while maintaining a broadly similar food law system. The difficulty with this (even assuming that it represents an improvement) is that there are not enough alternative suppliers of legal/sampling/analytical / interpretational expertise to replace the existing TSOs, EHOs and Public Analysts. Some have argued for sampling officers to be able to send their samples anywhere for analysis, using the cheapest service available. This raises questions of impartiality, proven competence, cost, availability and continuity of service, and, crucial to the role of the Public Analyst, competent interpretation of the results. It has been a major feature of the Public Analyst Service that it has been available locally, or reasonably so, and has local knowledge. These are valuable features in comparison with a remote faceless test house that may not have the necessary interpretational expertise.
- 3 Allow the food industry to regulate itself. It has been argued, in essence, that the food industry does not need regulation since it does not want to poison its customers. There is an element of truth in this for big companies as regards microbiological matters, where adverse effects on consumers are rapid and commercially damaging. Many have introduced meticulous testing systems to safeguard food hygiene. However, in compositional and labelling matters, there is constant commercial pressure to use cheaper ingredients and to describe the product as attractively as possible. The envelope is constantly being pushed, and enforcement sampling and testing are vital in maintaining some

balance. The knowledge garnered by enforcement analysis is valuable background when legislation changes are proposed. A current example is the introduction of an EU-wide definition of meat for the quantitative labelling of meat products. The information and expertise accumulated from enforcement analysis of UK products has been essential in informing discussions with the FSA and the trade and will be vital in policing the forthcoming regulations.

- 4 Rely on quality systems as used by supermarkets to vet their suppliers. A range of quality systems, but particularly EN45004, are being used to establish and audit manufacturing processes that will consistently deliver a product of the expected standard. The reason that this is inadequate for consumer protection is that the product design may not accord with what is expected by or described to the consumer.
- 5 'Name and shame' via FSA surveys rather than prosecute offenders. The Food Standards Agency took over and progressed work begun under the auspices of MAFF on food authenticity surveys. There is no basis in law enforcement for such surveys, but the Agency has publicised reports of food fraud and substitution such as adulterated orange juice and poultry massaged with water. The publicity given to the findings of such surveys can have a positive effect on the market, but they lack the inherent force of a legal judgment. There is also concern about the denial of natural justice which enforcement through the courts provides. The 'name and shame' practice harks back to the 1850s when the Sanitary Commission of *The Lancet* published similar reports in order to galvanise the government into passing consumer protection legislation. Today, the law is in place, but without competent guidance the job of enforcement is not being done. It is of paramount importance that such surveys do not undermine information gathering by enforcement staff for use as 'benchmark' data in enforcement situations. Proposals for a national database of information gathered from enforcement analysis will undoubtedly reduce the requirement for such survey work. If the UK is to retain and re-build an effective food control laboratory service, it is absolutely essential that such surveys, when they are necessary, constitute an integral part of enforcement procedure, and not the other way round.

Conclusions and proposals

With the overwhelming majority of food legislation now decided by the European Union, and Brussels voicing a clear desire for well-resourced, highly skilled food control bodies, the UK government cannot ignore its existing domestic problems. For too many years, the work of Public Analysts has not received due attention or financial commitment. The result is a Public Analyst Service starved of resources, unable to co-operate closely and invest in the future, and bereft of strategic direction.

However, it would be wrong to proclaim an irreparable disaster for the enforcement of food law in the UK. Much can and must be done to ensure that we fund and equip our service adequately.

The first step is to ensure that the job that the Turner Committee was instructed not to do is picked up. It is time we grappled with the question of what funding is needed for a proper Public Analyst Service and how to deliver that funding.

Discussion must get under way between local authority representatives, the APA and the FSA to look at the process begun in the 'Specification for a national Public Analyst Service'^[16]. And first on the agenda must be an identification of the amount of food law enforcement analysis necessary for adequate UK consumer protection.

It must be recognised that the current average funding of 12p per head of the population is utterly inadequate to provide the level of consumer protection that is expected by Brussels and that consumers imagine exists. An early step therefore must be to establish the cost of an adequate level of protection against food that is contaminated, food that is not of the expected composition and food that is misleadingly labelled. Benchmarks must be the costs in other Member States with good systems, recognising the expenditure by the food industry on developing new products, all of which should be subject to enforcement scrutiny at an early stage. This will require exploration of other Member States' arrangements and a summary report.

In the meantime, a minimum level of, or expenditure on, food sampling activity should be identified to prevent the collapse of the existing system while research takes place. It is a certainty that if the present system is allowed to crumble, it will cost a great deal more to invent a new one at a later date, whilst the goodwill and expertise of the existing practitioners will have been comprehensively wasted.

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