



# GM Food and Crops: Maintaining Consumer Choice

A report of a survey on the enforcement of the EU  
GM Traceability and Labelling Regulations

## **GM Freeze**

The GM Freeze campaign is supported by an alliance of national organisations who share the public's deep concern over the speed at which genetic engineering is being introduced into food and farming.

The alliance encompasses a wide range of interests including environmental campaigns, trade unions, development charities, religious groups, retailers and consumer bodies.

They are united by a belief that we must stop and think about the huge implications of this new technology and the questions that remain to be answered about its safety and impact.

The campaign is calling on the Government for a Freeze on:

- the growing of genetically modified plants and the production of genetically modified farm animals for any commercial purpose
- imports of genetically modified foods, plants, farm crops and farm animals, and produce from genetically modified plants and animals
- the patenting of genetic resources for food and farm crops

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## **Executive Summary**

### **The Survey**

Between February and August 2005, GM Freeze carried out a survey of local authorities and other regulators responsible for the enforcement of the Genetically Modified Organisms (Traceability and Labelling) Regulations 2004 in England Wales, Scotland and Northern Ireland. Trading Standards and Environmental Health Departments and Port Health Authorities (PHAs) were contacted as appropriate for each nation in the UK.

The Department of Agriculture and Rural Development Northern Ireland was also surveyed because of its responsibility for animal feed. The Food Standards Agency was contacted concerning its monitoring of GM content in food and feed.

The response rate from local authorities who received the survey was 48% (about 20% of the number of local authority departments with some responsibility for the Genetically Modified Organisms (Traceability and Labelling) Regulations 2004/2005).

This was considered to be a representative sample of the authorities actually enforcing the Regulations. Only PHAs at ports where food or feed imports arrived from outside the EU were sent the questionnaire.

### **Results**

- The majority of local authorities were aware of the 2004 Regulations although some seemed uncertain about their responsibilities under the previous GM labelling regulations introduced in 1999.
- Only one local authority had mounted a prosecution for a breach of the 1999 Regulations. This resulted in the offending company being fined £17,000. Three other local authorities had investigated breaches but no prosecutions had been carried out.
- 44% of authorities surveyed took no food samples in connection with the enforcement of the 1999 GM labelling regulation in 2003/04 and a further 23% did not provide an answer to the question. Only one authority took more than 30 samples in the year - 484 by a Scottish Council. Only 21% of Port Health Authorities confirmed that they had taken samples in connection with their enforcement activity.
- When asked if they were sufficiently financed to enable them to ensure consumer products were accurately labelled during 2003/04, one third agreed they were whilst 34% either disagreed or strongly disagreed, and a third who were neutral.
- 42% said they were satisfied that they could enforce the GM labelling regulations in restaurants and catering establishments, compared with 27% who disagreed or strongly disagreed, and one third were neutral.
- Staffing levels in Trading Standards and Environmental Health Departments vary greatly – from two to 72 full time equivalents – depending on the population of the local authority concerned and in Port Health Authorities from three to 40 full time equivalents, depending on the amount of trade regulated
- Budgets for testing food and feed and across the whole range of legislation ranged from £5,800 to £137,000.
- Delays in laying Statutory Instruments in England, Wales, Scotland and Northern Ireland meant that the 2004 regulations could not be enforced in the UK when they came into force in April 2004.
- 86% were aware of the existence of the new regulations with only 14% either not knowing or being unsure.
- There were delays in local authorities receiving final guidance on enforcing the 2004 regulations from the Food Standards Agency.
- 94% of respondents did not anticipate an increase in staff or operational budgets to enforce the extra requirements of the 2004 Regulations.
- 30% of respondents felt they were sufficiently financed to deliver the enforcement of the 2004 Regulations.

- 50% of respondents agreed that enforcement of the 2004 Regulation would cost more than the 1999 Regulation because of the requirement to label ingredients derived from GM crops.
- 53% agreed that enforcement of the 2004 Regulation would cost more because of the need to label animal feed.
- 35% felt that the lowering of the labelling threshold from 1% to 0.9% would increase enforcement costs.
- 56% disagreed or strongly disagreed that their department would increase staffing or monitoring budgets as a response to the 2004 Regulations.
- The costs of the basic test for GM presence varied considerably, from £95 to £250, averaging at £135.66 per sample. Charges quoted to identify a specific GM trait or to give a percentage presence of a GM trait or traits ranged from £106 to £600 per sample.
- The Food Standards Agency conducted a limited survey of GM content in ingredients for processed meat products and vegetarian 'meat' products at a cost of £9,200 in 2005. The results had not been published at the time of going to print.

## Conclusions

The current level of enforcement of the Genetically Modified Organisms (Traceability and Labelling) Regulations 2004 in England, Wales, Scotland and Northern Ireland is not robust enough to ensure that only genetically modified organisms (GMOs) approved for commercial sale in the EU enter the food chain. Also the current enforcement activity does not provide adequate guarantees that labelling of food and animal feed for authorized GM content is accurate and reliable.

It is disturbing that minimal activity is reported by some regulators, suggesting enforcement of the Regulations has a low priority with some local authorities. This may reflect the 'luke-warm' attitude of the Food Standards Agency (FSA) towards them. The low level of enforcement activity is to a large extent due to the tight

budgets which local authorities have for carrying out all monitoring of food and animal feed across the range of regulations they have to enforce, which limits the number of samples that can be taken. As a result, there is over reliance by regulators on monitoring traceability paper trails without verifying the GM content of food and feed by independent analysis. The central authority (the Food Standards Agency) has failed to provide additional finance to all local authority Trading Standards Departments, Environmental Health Departments and Port Health Authorities (PHAs) to enable them fulfill their duties. This is despite the FSA recognising that enforcement costs will rise by 78%<sup>1</sup> because of the additional need to monitor animal feed and derivatives of GM crops in the 2004 Regulations. There is an immediate need for the FSA to increase their commitment to the enforcement of the 2004 Regulations by increasing funding and support to the PHAs - key regulator at the ports.

Failure to address the financial short-fall leaves the UK vulnerable to unauthorised and potentially harmful experimental genes entering the food and feed chain in the UK, such as Bt10 maize. Bt10 may have been entering the UK undetected for four years in shipments of maize from the USA. Ships carrying maize gluten for animal feed into the UK from the USA are estimated to arrive at the rate of one every five weeks.

It would also make sense for responsibility for monitoring food and feed imports at ports for GM presence to be in the hands of one department rather than shared between the PHAs and Trading Standards in England and PHA and DARDNI in Northern Ireland, as is that case at present. As PHAs are on the spot where food and feed enter the country, they should take prime responsibility for enforcing the regulations on imports and be funded accordingly by the FSA. In the long run this would be the most effective way to prevent unauthorised and illegal GMOs entering the country.

A briefing for the Secretary of State prepared for the Council of Ministers meeting in April 2005, and released by the FSA to GM Freeze on 8th August 2005, made it clear that civil servants see the significance of the Bt10 incident. When referring to a future report on Regulation 1929/30 (which regulates the authorisation and marketing of GM food and feed) the briefing said

*"No doubt the Bt10 incident will figure in this report and may lead GM critics to call for tighter regulation of imports". Few would argue with this point of view when there is potential for unauthorised GM crops, some of which could have serious health implications and be very costly to clear-up, to enter the UK.*

In the meantime, local authorities will be required to carry on with insufficient finances to enforce regulations which have massive public support and support from the three main political parties. Parliament might rightly ask Government why Regulations are approved when there is insufficient budget allocated to allow them to be enforced to the level that the public is expecting.

The FSA needs to rapidly move from its current luke-warm approach to enforcement to positive leadership committed to adequately funding and supporting local authorities to do the job at local level.

## Recommendations

- 1 The enforcement of the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004 should be financed from the central budget of the Food Standards Agency and delivered by local authorities.
- 2 Cargoes arriving at the ports from countries where GM crops are grown should be the primary target of monitoring programmes.
- 3 Responsibility for monitoring and enforcement at the ports should be with a single local authority department – the PHAs. Their funding should increase to enable them to carry out this duty effectively.
- 4 Cargoes should be held at port until monitoring has verified that there are no unauthorised GM traits present and ascertained the percentage content of authorised GM in each cargo.
- 5 Cargoes containing unauthorised traits should be returned to the country of origin at the exporter's expense.
- 6 The Authorities responsible for monitoring cargoes should be provided by the FSA with clear sampling protocols which give the minimum number of samples needed to verify the GM content of cargoes of varying sizes.
- 7 Monitoring programmes should include crops transshipped from other EU ports or grown in the EU, including any entering via the Channel Tunnel.
- 8 Local authorities should also be funded by the FSA to carry out random checks on retail samples and animal feed samples to ensure that labelling is accurate and companies are keeping the required traceability paper trail.
- 9 Retail monitoring should not specifically target companies who have chosen to market their products as GM-free but include all companies selling products likely to be contaminated with approved or unapproved GMOs.
- 10 Fines arising from prosecutions should be used to enhance existing monitoring programmes including laboratories capable of identifying and quantifying a full range of GM traits.
- 11 Biotechnology companies should be required under EU law to provide analytical methods and reference materials for all the GM traits they have released commercially or experimentally anywhere for the same crop species as a pre-condition for receiving a marketing consent for a GMO in the EU.
- 12 Should any contamination of the food/feed chain with unauthorised GM traits take place, the biotechnology company which developed the trait should be liable for any harm arising from the contamination to health, the environment or the economy.

## 1. Introduction

This report examines how well equipped the UK authorities are for enforcing the EC Regulations on traceability and labelling of GM ingredients in food and animal feed introduced in 2004 and also under the previous regulation on labelling introduced in 1998. It begins by outlining the scope and background to the issue of labelling and traceability of GM ingredients and then reports on a survey of local authorities who enforce the new regulations in the UK. It then reviews the significance of the findings in the light of revelations that an unapproved GM maize (Bt10) had been imported into the EU undetected by the regulators since 2001 and that China may have exported unapproved GM rice last year. Finally it makes a series of recommendations designed to safeguard consumers' right to food and animal feed free of GM content and to protect public and animal health from unapproved GM traits.

## 2. Background

### 2.1 Public Demand

The population of Europe has consistently shown strong support for the GM content of food and feed to be labelled. The Eurobarometer survey of 2001 found that 94% of respondents supported the right to choose whether or not they consumed GM foods.<sup>2</sup> In the UK there has been widespread support for comprehensive labelling for many years. A recent National Consumer Council survey found that 64% of people supported labelling for food and 79% wanted it extended to animal products from animals fed on GM feed.<sup>3</sup> The Food Standards Agency ran a Citizen's Jury on GM food in April 2003 following which the jurors called for "effective labelling and monitoring of GM foods; for example, a GM food logo to ensure that people can make a genuine choice to eat or to avoid eating GM foods".<sup>4</sup> Concern about GM presence in food even extends to GM pollen in honey, with a NOP poll finding that 56% wanted honey to be GM free, rising to 64% of households where honey is regularly consumed.<sup>5</sup> There is no sign that opposition to GM food and crops is reducing. In fact, successive polls for Which? (formerly the Consumer's Association) found that UK consumers had become more concerned about GM crops between 2002<sup>6</sup> and

2004.<sup>7</sup> Freedom to choose products free of GM content also featured strongly in the comments of participants in the GM Nation? Public debate in the UK in 2003.<sup>8</sup>

### 2.2 Political Support

One of the unifying aspects of the highly polarised and high profile debate on the introduction of GM crops and food into the UK has been the general agreement that people should have the right not to consume GM ingredients if they do not wish to.

Around the 2005 UK General Election, the main political parties appeared to agree on the need for the right to choose:

*"Give consumers the right to choose non-GM foods and ensure that all foods containing GM material, or that come from livestock fed on GM, are clearly labelled as such."*  
**Conservative Policy on the Environment April 2005<sup>9</sup>**

*"We will insist on rigorous schemes of labelling and traceability in food to guarantee consumer choice."*

**Liberal Democrats Manifesto for the Environment<sup>10</sup>**

*"We will continue to take a precautionary approach to GM foods and crops based on sound science and ensuring consumer information and choice."*

**Labour Party GM Policy<sup>11</sup>**

## 3. Legislation

In response to the weight of public opinion and the consumer backlash against GM foods from the late 1990s, the European Union introduced retrospective labelling legislation in 1999 for GM soya and maize which were licensed commercially in 1996 and 1997 respectively. This regulation<sup>12</sup> was limited in its scope by only requiring food destined for human consumption with a detectable GM protein or DNA present at above 1% to be labelled. In the UK this regulation was also applied to canteen and restaurant food. However, derived ingredients, such as vegetable oil, lecithin, syrup and starch, which contain no detectable protein or DNA, were not required to be labelled, and neither was animal feed. As a result of these loopholes

there was considerable scope for food and feed derived from GM crops to enter the EU unlabelled, thus limiting consumer and farmer choice.

Public concern across the Europe about the safety of GM crops and food soon led to the EU GMO deliberate release directive (90/220/EC) to be replaced and considerably strengthened by Directive 2001/18. This included a requirement that GM ingredients should be labelled and traceable. However, some Member States were keen to see rules governing traceability and labelling widened and this led to EC Regulation 1830/2003 being drafted and passed in September 2003. The Regulation came into force on 18th April 2004. Subsequently UK regulations were introduced in England<sup>13</sup> and Scotland<sup>14</sup> in October 2004 and in Wales<sup>15</sup> and Northern Ireland in July 2005.<sup>16</sup>

Regulation 1830/2003 goes considerably further in meeting consumer demands for a clear choice than the previous legislation (1139/98) and Directive 2001/18. The requirements of the regulation are as follows:

"Labelling applies to foods, which contain or consist of GMOs or are produced from or contain ingredients produced from GMOs and are delivered to the final consumer or mass caterers in the EU. Labelling is not required where the presence of an authorised GMO is less than 0.9% of the food or feed ingredients considered individually or of food consisting of a single ingredient, provided that the presence is adventitious or technically unavoidable. For an unauthorised GMO which has received a favourable safety assessment from an EC scientific committee the threshold is 0.5%. This latter threshold is for a transitional period of 3 years.

- Where a food contains more than one ingredient, the following indication must be given; 'genetically modified' or 'produced from genetically modified (name of organism)';
- Where a food is designated by the name of a category e.g. 'Emulsifiers', the following must appear in the list of ingredients; 'contains genetically modified (name of organism)', or contains (name of ingredient) produced from (name of organism)';

- If there is normally no list of ingredients given on a specific product the following must appear clearly on the Labelling, 'produced from genetically modified (name of organism)';
- Where the food is offered for sale to the final consumer as non pre-packaged food, or as pre-packaged food in small containers of which the largest surface has an area of less than 10cm<sup>2</sup>, the information required must be permanently and visibly displayed either on the food display or immediately next to it, or on the packaging material, in a font sufficiently large for it to be easily identified and read".

#### **For feed:**

Specific requirements are:

- For GMOs for feed use or feed containing or consisting of GMOs the words 'genetically modified (name of the organism)' shall follow in parentheses the name of the feed or alternatively can appear in a footnote.
- For feed produced from GMOs the words 'produced from genetically modified (name of organism)' will need to appear in parentheses following the specific feed name or appear in a footnote to the list of feed.
- Any characteristic which renders the feed different from its conventional counterpart will need to be specified. For example:
  - (i) Composition
  - (ii) Nutritional properties
  - (iii) Intended use
  - (iv) Implications for health of certain species or categories of animals. In addition any characteristic or property of the feed which may give rise to ethical or religious concerns must be indicated.

Throughout the negotiations of the new regulations, the UK Government and FSA, while supporting labelling and traceability in principle, voted against lower labelling thresholds and the inclusion of GMO derivatives.<sup>17</sup> They cited practical enforcement considerations and incompatibility of the regulations with the Biosafety Protocol, the international agreement on the trans-boundary movement of GMOs.

There is no requirement to label animal products such as meat, milk, cheese and eggs if they come from herds or flocks fed on GM animal

feed. This remains the one major loophole in providing consumer choice in the EU and legislation to close it would have the support of the majority of people in the EU.

## 4. Enforcement

The European Parliament insisted that traceability and labelling of GM ingredients in food and feed be in place for two reasons:

- To enable post release monitoring of the potential health and environmental effects of a GMO to take place as required by Article 20 of Directive 2001/18.
- To enable consumers to exercise choice as to whether or not to consume GM ingredients or products derived from GMOs.

The EC regulation 1830/2004 Article 14 states *"Member States shall ensure that inspections and other control measures including sample checks and testing (qualitative and quantitative), as appropriate, are carried out to ensure compliance with this Regulation. Inspection and control measures may also include inspection and control regarding the holding of a product."*

The burden of enforcing the Regulations falls upon local authorities. The Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004 Section 2 states: *"each local authority shall, within its area, enforce and execute the provisions of these Regulations and the specified Community provisions."*

The regulations applying to food are as follows:

- Regulation 3 provides for the enforcement of the Regulations and the specified Community provisions (the provisions of Regulation (EC) No. 1830/2003 specified in the Schedule);
- Regulation 4 makes provision for the appointment of inspectors;
- Regulation 5 provides powers of entry, including the power to carry out tests and inspections and to take samples;
- Regulation 6 enables inspectors to require the provision of information;

- Regulation 7 provides for the serving by inspectors of notices dealing with incorrectly labeled products;
- Regulation 8 makes it an offence: to contravene the specified Community provisions; to obstruct inspectors in the exercise of powers under these Regulations; and to give false information; and sets out a due diligence defence in respect of the contravention of the specified Community provisions;
- Regulation 9 makes provision for offences committed due to the fault of another person;
- Regulation 10 makes provision for offences committed by corporate bodies;
- Regulations 11 and 12 prescribe penalties and specify time limits for bringing prosecutions.

### 4.1 Enforcement Costs

The main costs of enforcing the new Regulations were identified by the Food Standards Agency<sup>18</sup> as:

- the cost of testing products for GM content;
- the cost of monitoring the accuracy of traceability and labelling;
- the cost of imposing penalties for non-compliance.

The Food Standards Agency (FSA) has emphasised the enforcement role of local authorities

*"It is assumed that the greatest burden of enforcement will fall on Local Authorities who are responsible for monitoring and enforcing compliance with food labelling requirements and who will pick up the responsibility for labelling under the new feed labelling requirements. Depending on the Local Authority, responsibility may fall to Trading Standards Officers or Port Health Authorities."*<sup>19</sup>

The same FSA's draft full regulatory impact assessment<sup>20</sup> stated that costs of enforcement were expected to increase "only marginally" and

that "local authority trading standards officers may be able to monitor compliance with the new regulations within their existing programme of visits". The FSA also stated that "the cost of sample analysis for GM ingredients should remain consistent with the current costs of testing. This is because it will not be possible to test, using analytical methods, the additional products derived from GMOs covered by the new regulations as they do not contain any GM material. In these circumstances only a paper audit trail can verify the origin of these products".

This however ignores the fact that the bulk of GMOs entering the food chain in the UK are destined for animal feeds, which were exempt under the previous labelling regulations. In addition, the volumes of maize and soya (the two most widely grown GM crops around the world) for animal feed are imported in considerably greater quantities than those cargoes entering the human food chain.

The FSA draft regulatory impact assessment estimated the monetary costs of enforcement under the 2004 regulations: "it is estimated that the costs of enforcement in relation to GM products sold to consumers would rise from a current total for the UK of about £225,000 a year to about £400,000 a year. The additional costs of £175,000 are accounted for by the rise in inspections that would be required to cover the larger range of products covered under the new regulatory regime (principally animal feed and food and feed products with ingredients derived from but containing no detectable GM material)".

No detailed explanation as to how these figures were derived was provided. Based on the FSA's estimates, there is likely, therefore, to be a 78% increase in local authority costs to enforce the new regulations. This is in contrast with the FSA's statement earlier in the same document that costs of enforcement were expected to increase "only marginally".

The FSA also set out a hierarchy of offences:

- most serious: sale and use of unauthorised products, particularly food;
- less serious: failure to comply with requirements for authorised products;

- least serious: failure to keep proper records.

The FSA says that the courts will be able to use "a flexible range of punitive and deterrent options, which could be applied proportionately in particular cases". However, in the opinion of some commentators<sup>21</sup> the fines available to the magistrates' courts (maximum of £5,000) are not sufficient to encourage full compliance.

## 4.2 Who Enforces at Local Level

The enforcement of the Regulations at local level either for food destined for consumers, feed being sold to farmers or food and feed imported via our ports is carried out by various departments of local authorities.

Who enforces what depends where you are in the UK (see Table 1). Responsibilities for individual aspects of enforcement can be split between two different local authority departments and in the case of Northern Ireland between the PHAs and the Department of Agriculture and Rural Development (DARDNI). Enforcement responsibilities at ports are different for food and feed around the country. At local level, enforcement for food and feed is mainly with Trading Standards Departments, with the exception of food, where Environmental Health Departments are responsible in Scotland and Northern Ireland. DARDNI enforces the regulations for animal feed sales.

Food and feed imports should (in theory) be monitored in a similar way in all other EU Member States. Thus the GM nature of each cargo arriving in the EU from third countries should already be fully documented before it is allowed to enter the UK market. Cargoes containing any level of unapproved GM traits should not be allowed to enter and those with approved traits should be labelled accordingly if they are present above 0.9%. The only exception, at present, are GM traits which have received a positive opinion from the European Food Safety Authority's expert committee, when cargoes containing 0.5% GM content would be allowed to enter. When cargoes are unloaded in one EU State and transshipped, they can freely enter the UK in line with the single market rules, providing the documentation from the first point of entry accompanies the cargo to the UK port.

**Table 1** Local Authority Departments Responsible for the Enforcement of the Genetically Modified Organisms (Traceability and Labelling) Regulations 2004

Country	Food imports	Feed imports	Animal feed	Human food on sale (including restaurants etc)
England	PHA/Trading Standards/EH	PHA/Trading Standards	Trading Standards	Trading Standards/EH
Wales	PHA/Trading Standards/EH	PHA/Trading Standards	Trading Standards	Trading Standards/EH
Scotland	EH	Trading Standards	Trading Standards	EH
Northern Ireland	EH	PHA/DARDNI	DARDNI	EH

PHA- Port Health Authority EH - Environmental Health Departments DARDNI – Department of Agriculture and Rural Development Northern Ireland

## 5. The Survey

### 5.1 Methodology

Local authorities across the whole of the UK responsible for enforcing the Genetically Modified Organisms (Traceability and Labelling) Regulations 2004 were randomly sampled between February and July 2005.

In the case of Trading Standards Departments and Environmental Health Departments, the sample was selected using on-line random number selection. A sample of 40% was initially selected for each the countries of the United Kingdom<sup>22</sup> as follows:

England	59
Wales	12
Scotland	19
Northern Ireland	9

Each local authority was contacted by telephone, in the first instance, to seek their co-operation. The survey was then emailed or posted to a named person whenever possible. The questionnaire used for Trading Standards and Environmental Health can be found in Appendix 1.

Port Health Authorities (PHA) in England, Wales, Scotland and Northern Ireland were surveyed depending on whether the port(s) under their control imported food and animal feed from countries outside the EU. Several ports which only handle transshipped food and feed cargoes, which in theory have been checked at their port of entry into the EU, for instance in Rotterdam in

The Netherlands, were not sent questionnaires. Once again the questionnaire was either posted or emailed to a named person in the PHA after they had agreed to respond to it. A total of 24 PHAs across the whole of the UK were sent questionnaires. PHAs which covered airports only were not surveyed because they handle very little food or feed from crops which have been genetically modified. The questionnaire used for PHAs can be found in Appendix 2.

In areas where there were ports handling imported food and feed, Trading Standards Departments were also contacted because of their role in policing feed imports. In Northern Ireland the Department of Agriculture and Rural Development (DARDNI) was sent an adapted questionnaire because of its role in enforcement of the regulations for animal feed.

The same wording was used for the questions regardless which local authority department was being surveyed.

### 5.2 Response Rates

The response rate to the initial phone call and mailed questionnaire was poor despite email and telephone reminders. To ensure that the overall response rate was adequate, potential respondents who did not respond after several reminders were followed up by requests made under the Environmental Information Regulations 2004. In these cases, a revised questionnaire was sent, in which the questions requiring the respondent's opinion were left out and only factual questions were asked.

**Table 2** Response rates to Survey on GM Traceability and Labelling (including requests made under the Environmental Information Regulation 2004)

	Total Number of Departments	Number sent survey questionnaire	Number of responses	% response rate for the total number	% response rate for those surveyed
England TS	136	59	21	15	36
Wales TS	22	12	6	27	50
Scotland EH	32	19	14	28	47
Northern Ireland EH	23	9	4	17	39
Port Health Authorities	80	24 (food & feed imports from outside the EU only)	14	17	71
Overall	293	123	59	20	48

TS – Trading Standards Departments; EH - Environmental Health Departments

Table 2 shows the response rate to the survey. Overall the response rate to the survey was around one in five of the total number of authorities with enforcement responsibilities for the GM Traceability and Labelling Regulations. This is considered sufficient to provide a reliable picture of the level of enforcement across the whole of the UK. Of the local authorities actually sent a questionnaire, 48% responded. The response rates were higher in Wales and Scotland although a separate analysis of the results from these countries did not suggest that this would bias the overall results. Response rates to individual questions were sometimes lower than the overall response rate, for two reasons: firstly failure by respondents to answer all the questions; and secondly the questionnaire used when request for a response was under the Environmental Information Regulations 2004 had fewer questions. A list of authorities which responded can be found in Appendix 3.

## 5.3 Survey Results

### 5.3.1 Labelling Regulations 1999

The majority of local authorities contacted had had responsibility for enforcing the first set of regulations on the Labelling of GM ingredients in food (The Food Labelling (Amendment) Regulations 1999). However, three respondents in Scotland and Northern Ireland were unsure (8%) as to whether they were responsible or not.

Only one local authority had mounted a prosecution for a breach of these regulations – Durham Trading Standards. This resulted in the offending company being fined £17,000. Three

other local authorities, Milton Keynes (twice), Durham and North Ayrshire (four times) had investigated breaches but decided not to proceed with prosecution. In the case of the investigations in Milton Keynes and Durham, the companies involved had demonstrated due diligence by having identity preservation systems in place designed to keep GM presence in food below 1%. In the North Ayrshire cases, the files were forwarded to authorities where the food manufacturer was based. One local authority commented that they concentrated on food manufacturers within their area because this was most cost effective.

### 5.3.2 Sampling Frequency

Generally the number of samples taken in the enforcement of the 1998 Labelling regulations was low. Respondents were asked how many samples were tested for GM presence in 2003/04. The results were very variable with 44% authorities surveyed taking no samples at all and 23% not providing an answer to the question. However one Scottish authority took 484 samples of food, which greatly boosted the Scottish average to 64.5 per local authority EHO department. By removing the one high sample, the Scottish average falls to 4.6 samples per authority, which is more in line with the rest of the UK.

In England the maximum number of samples in one year was 30 and the average only 6.65 samples.

In Wales frequency was lower still (average 1.2 samples per authority) and in Northern Ireland none of the departments who responded had taken any samples.

The frequency of monitoring by PHAs was also low, averaging 6.7 samples per authority with a maximum rate of 20 samples in the year for those authorities who responded. Only just over one fifth (21%) of PHA respondents confirmed that they had taken samples to enforce the regulations. In answer to a later question on which type of laboratory they employed for GM analysis, seven out of 11 respondents from PHAs replied that they did not take samples (64%).

Despite the relatively low level of sampling, the respondents were fairly evenly split as to whether or not their departments were sufficiently financed to enable them to ensure consumer products were accurately labeled during 2003/04. One third agreed they were financed sufficiently whilst 34% either disagreed or strongly disagreed and 33% were neutral.

When Trading Standards and Environmental Health Departments were asked about their finances for enforcing the 1998 Regulations in restaurants and canteens, 42% said they were satisfied that they could enforce the GM Labelling regulations compared with 27% who disagreed or strongly disagreed. The remaining third were neutral.

The responses on the enforcement of the 1998 Regulations suggests that most authorities relied on supply chain documentation to check whether GM Labelling of food was accurate rather than sampling for approved or unapproved GM traits and quantifying of GM protein/DNA present using laboratory analysis.

Further information on monitoring was also provided by the FSA<sup>23</sup> on monitoring by two local authorities although *"(t)here is no centralized collation point for the results of GMO testing"*. In 2004/05, South Ayrshire Council and Northamptonshire County Council took six samples between them. Two out of the six were reported as containing a GM presence; an Indian corn, linseed amaranth multi grain cereal from Canada, which was labelled 'organic' but found to contain GMO35S promoter and a savoury mince product from Brazil, in which GM soya was detected. The GM soya present was less than 0.1%.

The FSA *"carries out ad-hoc sampling as part of its food authenticity programme"* in co-operation with local authorities *"to check for misdescription of foods"*. Sixty samples from

14 local authority areas were taken in 2005. The results were not available in October 2005. In Northern Ireland, The Department of Agriculture and Rural Development did not take any samples of animal feed in 2004/05. In 2005-06, eight samples have been taken up until September, these were sub-sampled 15-16 times each.

### 5.3.3 Existing Resources

Staff and budgets of Local Authority Trading Standards and Environmental Health Departments and Port Health Authorities have to be spread across a broad range of legislation which they have to enforce, on routine monitoring and surveillance and in responding to unexpected events on their own patches, including the need to prosecute offenders under many different regulations. Thus the food legislation for which local authorities have responsibility is substantial and the enforcement of the GM Labelling and Traceability Regulations is a small but growing part of their workload. The questionnaire sought to ascertain what existing staffing and budgets were in each local authority contacted.

Staffing levels vary greatly depending on the population of the local authority concerned or the amount of trade which docks regulated by PHAs receive. For Trading Standards Departments and EHOs, staff numbers ranged from 2 to 72 full time equivalents. The highest number of staff was in Norfolk County Council. Port Health Authorities had between 3 and 40 staff, the latter being the Corporation of London PHA.

Budgets for testing food and animal feed imports across the whole range of legislation are relatively small. In England budgets ranged from £5,800 in Middlesbrough to £137,000 in County Durham. In Scotland, sampling/testing budgets ranges from £10,000 to £112,000. The survey results suggests that funding for food testing in Scotland might be marginally more generous than the rest of the UK although more detailed work would be needed to ascertain precisely how the differences arose.

During the planning of the questionnaire it was clear that the authorities would not easily answer a question about the exact amount of staff time allocated to the enforcement of the 1998 GM

Labelling Regulations. However, from conversations with local authority officers about the survey, it was clear that staff time and operational budgets were allocated depending on the priority work areas at the particular time.

The Food Standards Agency do not routinely carry out or fund Local Authorities or Port Health Authorities to conduct GM sampling in relation to monitoring and enforcement of The Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004".<sup>24</sup> However the FSA has provided additional funding to Local Authorities and PHAs *"to increase sampling and surveillance of imported food. This may include sampling of GM food and feed"* (our emphasis).

### 5.3.4 Enforcing the 2004 Regulations

EC Regulation 1830/2003 on the Traceability and Labelling of Genetically Modified Organisms came into force on 18th April 2004. However, the Regulations could not be enforced in the UK (no penalties could be imposed if the regulations had been breached) without being transposed into UK law. As mentioned above there was considerable delay in the four regulations covering the UK coming into force. In the case of Wales and Northern Ireland this was over 12 months after the EC regulation became law. In England and Scotland, delays of 6 and 7 months, respectively, occurred.

Thus several respondents in Wales and Northern Ireland completed the questionnaire before they could enforce the EC Regulation because their national regulation was not in force.

### 5.3.5 Awareness of 2004 Regulations

Despite the delays in getting national regulations in place, nearly nine out of ten of all respondents (86%) were aware of the existence of the new regulations with only 14% either not knowing or being unsure. When asked about what guidance they had received from either the Food Standards Agency or direct from their respective government, the majority of replies indicated that none had been received or respondents were unsure. Around a quarter (26%) said they had received something from the FSA and only 13% from the Department of the Environment, Food and Rural Affairs (DEFRA). The reality was that the FSA guidance in

England was only issued in spring 2005, several months after the survey had commenced. This, coupled with the delays in tabling the all UK regulations, provides some explanation as to the lack of knowledge of the minority of respondents.

### 5.3.6 Enforcement Staffing and Resources

The vast majority of respondents from all types of department were clear that neither staff numbers nor operating budgets would increase as a result of the additional enforcement requirements of the 2004 Regulation. No one in any department or PHA replied in the affirmative to the questions about whether staff or budgets would increase to cope with the new regulations. More than 9 out of ten (94%) replied with a straight "no" with the rest being "don't know".

#### Current Budgets and Staffing

Opinions were far more variable when respondents were asked about their ability to enforce the 2004 Regulations. When asked to comment on whether they were adequately financed to carry out the enforcement of the 2004 Regulations, three of ten respondents from Trading Standards and Environmental Health Departments agreed they were. However, about half preferred to remain neutral on this question and the remainder (23%) either disagreed or strongly disagreed.

#### Costs of Enforcing Derivatives

In contrast to the previous response, 50% of people answered that they either agreed or strongly agreed that the requirement of the 2004 regulation to require ingredients derived from GM crops to be labelled would increase their enforcement costs. Only 18% disagreed or strongly disagreed with around one third (31%) remaining neutral.

#### Cost of Enforcing Animal Feed

A very similar response came when people were asked for their views on the impact of the requirement to label GM content (including GM derivatives) in animal feed. Fifty three percent agreed or strongly agreed that this would increase enforcement costs. Only 15% disagreed or strongly disagreed. Again 31% remained neutral.

### **Costs of 0.9% adventitious threshold**

Respondents were far less decisive when asked their opinion of the impact of deciding if GM presence below the 0.9% threshold was "adventitious or technically unavoidable". Overall 50% of replies were neutral on this question, rising to 58% for Trading Standards Officers and Environmental Health Officers. However, more than one third (35%) agreed or strongly agreed that costs would rise. The remaining 15% disagreed or strongly disagreed.

### **Increased Staffing and Monitoring**

When asked for their opinion on whether their department would increase staffing and monitoring in response to the 2004 Regulations, three respondents (9%) who were all PHA officers agreed they would. However the majority (56%) disagreed or strongly disagreed. Over one third (35%) preferred to remain neutral on this question.

#### **5.3.7 GM Analysis and Costs**

Only authorities who are already carrying out analysis of food and feed for GM content were able to answer questions regarding where their samples were sent for analysis and how much each sample cost. The majority of local authorities and PHAs used either the County Analyst in their own area or bought the analysis from another county's service. Worcestershire Scientific Services were the most common laboratory called upon by other authorities in England. Additional telephone research carried out by GM Freeze in connection with the Bt10 incident suggested that many County Analysts also send samples on to Worcestershire. In Scotland, Glasgow and Edinburgh Scientific Services were often used by other local authorities. The main private company employed by regulators for GM analysis was the international company Eurofins which also owns GeneScan.

The costs of the basic test for GM presence varied considerably from £95 to £250, averaging at £135.66 per sample. Fewer authorities (only 15 responses) had information on the costs of analysis to identify a specific GM trait or to give a percentage presence of a GM trait or traits. The charges quoted ranged from £106 to £600 per sample. The information received often

ranged widely so no average sum for all respondents has been calculated. Responses on the cost of analysis needed to mount a prosecution for a breach of the labelling and traceability regulations (10 replies) also ranged from £106 to £600. One respondent mentioned the additional cost of an expert witness.

The cost of sampling in England, Scotland and Wales is broadly mirrored by costs given by DARDNI who reported that the cost of sampling and sub sampling was about £130 per sample. However DARDNI pointed out that individual cost will rise with the number of different traits that are tested for. They stated that there are 32 GM traits in maize worldwide and to test for each of these (at a PCR cost of £3 per sample) would take the cost to £196 per sample. If the origin of the maize is known, some traits could be eliminated and not tested for, thus reducing the overall costs.

#### **5.3.8 Overall Food Monitoring and Enforcement Budgets**

The sums required to carry out routine GM analysis by local authorities and the costs of more detailed analysis to the level required to mount a successful prosecution have to be seen in the context of the overall budgets for carrying out food and feed monitoring in connection with a very wide range of consumer and public health legislation. Respondents to the survey were asked for their budget for such work for 2003/04 and most provided a reliable answer. Staffing levels are also a crucial factor in the level of enforcement across the board, especially if prosecutions are being considered. During telephone contacts in the survey several respondents made reference to the need to prioritise their time and expenditure across a range of statutory duties.

Sampling budgets varied depending on the size of the population covered by the authority. In England they ranged from £5,800 to £137,000. In Wales, the range was £9,000 to £20,000. In Scotland, budgets were between £10,000 and £112,000. In Northern Ireland, a range of £6000 to £18,000 was found. Boston PHA reported having no budget but in Lincolnshire, monitoring of animal feed imports is carried out by Lincolnshire Trading Standards which reported a budget of £87,000. London PHA (£75,000) and Southampton PHA (£92,000) had the largest

budgets for all their monitoring which reflects the size of their ports and volume of trade. Staffing levels also varied depending on the size of the authority or port. London PHA has 40 staff whilst Hull and Goole PHA has only six and Highland PHA only three staff. The responses from Trading Standards and Environmental Health Departments showed a huge variation from just one to over 70 full time equivalents employed in the department, although some respondents gave a figure for staff working on food safety only.

### 5.3.9 Who should be responsible for enforcement?

Respondents were asked who they thought should be responsible for enforcing the 2004 Regulations. The majority of the sixteen responses received were happy with the existing situation in which Trading Standards, PHAs and Environmental Health Departments are the front line enforcers. However three respondents felt that the FSA or DEFRA should take prime responsibility. Two answered that a partnership approach between the local authority, the FSA and DEFRA would be best.

### 5.3.10 Additional Comments

Some respondents chose to take advantage of the opportunity to add their own comments at the end of the questionnaire. The handful that did respond produced some interesting comments and reflections. These are set out in full below (the identities of the respondents have been removed.)

- *"The cost of sampling is prohibitive and will require FSA/DEFRA support for a national project."*
- *"This authority has stepped up enforcement work at our ports which includes additional sampling. This is a result of a successful bid for funding from the Food Standards Agency. This work will continue."*
- *"Advice from the public analyst is that it is still difficult to quantify GM. The presence of GM sourced materials where no GM material is still present is almost impossible to detect. It cannot be detected by analysis."*

*It relies on an audit trail, but deliberate adulteration with GM sourced materials would not be declared."*

- *"Have developed a leaflet to hand out to business and public."*
- *"Trading Standards Section is responsible for enforcing in excess of 60 Acts of Parliament and many more Regulations. It is therefore not envisaged that the enforcement of the Genetically Modified Organisms (Traceability and Labelling) Enforcement of Regulations 2004 will be given a higher priority over such matters as the enforcement of underage sales of alcohol, etc."*
- *"We only have a small number of manufacturers within our area. We visit and look at the ingredients of their products. Unless we have had a specific reference to GMOs in food and feeding stuffs we would not routinely sample for their presence. We have sampled bread in the past from our own bakers. There were no problems found."*
- *"I have not received any information or guidance to suggest what we should actually be doing at the ports in our area. I have tried to answer the questions as fully as possible."*
- *"Further guidance on enforcement and sampling levels is required together with sufficient funding to ensure effective enforcement."*

## 6. Bt10 Maize – a Test Case

During the course of the survey new information was released by the media<sup>25</sup> that an unapproved GM maize (Bt10) had been found to have contaminated seed lots of another GM maize (Bt11) which had been accidentally been grown commercially in the USA and exported to the EU. Bt10 maize had not received commercial approval in the USA or anywhere else. The story was confirmed by Syngenta, the biotech company which developed both the GM maizes.<sup>26</sup> Syngenta reported the contamination to the US Government in December but it was 22nd March before the US authorities officially notified the EU.

As information emerged from Syngenta it was revealed that 1000 tonnes had entered the EU since 2001 through imports of Bt11 maize and 100kg of Bt10 contaminated seeds which may have been exported to France and Spain for research purposes.<sup>27</sup> Syngenta confirmed that the Bt10 had contaminated five seed lines of Bt11, which had been planted on 15,000 hectares in the USA between 2001 and 2004.

The US Government and Syngenta initially claimed that there were *"no food safety issues related to this regulatory compliance issue"*<sup>28</sup> and that the US Department of Agriculture, US Environmental Protection Agency and Food and Drug Agency had confirmed the proteins produced by Bt10 are identical to those produced by Bt11 corn.<sup>29</sup> However, later a significant health issue came to light when the presence of an ampicillin resistant gene in Bt10 which was not present in Bt11 was revealed.<sup>30</sup> Under EU Directive 2001/18, ampicillin resistant marker genes were in a group banned by the EU from commercial crop plants from 2006 because of concerns that their presence in crops could result in the gene horizontally transferring to pathogenic bacteria in the guts of humans and animals, leading to increased resistance to the antibiotic, which is used to fight infection. Syngenta claims the ampicillin resistance gene is inactive in Bt10 maize. The presence of the ampicillin resistance gene in Bt10 was only confirmed to the EC on 31st March 2005.

At the time that the Bt10 contamination was first publicised, not even Syngenta was capable of carrying out a straight test for the Bt10 trait. Confirmation of its presence in a crop or seed lot was only possible by eliminating the presence of the Bt11 trait first. Syngenta did not develop a straight test for Bt10 until April. Even then, there was considerable delay in Syngenta releasing Bt10 reference materials, needed to validate the test, to the EU Joint Research Centre. Documents released to GM Freeze by the Food Standards Agency reveal that UK laboratories authorised to carry out tests for Bt10 only received the crucial reference materials in early May 2005, about six weeks after the contamination was first revealed to the public and some five months after the US authorities were first informed.

Even at this stage it was not straightforward for any food or feed manufacturing company to act in the best interests of their customers by getting their raw materials tested for Bt10

because the use of the reference materials was restricted to *"official control purposes"* and *"They cannot be used for any other activity and they should not be distributed further"*.<sup>31</sup> The only company authorised by Syngenta to carry out private analysis for Bt10 was a company called GeneScan (owned by Eurofins). GeneScan was required to inform Syngenta of any analysis for Bt10 which they undertake. The UK situation was complicated by the fact that many Public Analysts who carry out analysis for enforcement purposes are private companies which rely on commercial work for a proportion of their income.

Thus despite emergency measures being approved by the EC on 15th April, which allowed cargoes of maize from the US to be held at ports until analytical evidence was provided that they were free of Bt10 contamination.<sup>32</sup> Trading Standards Departments and PHAs would not have been able to take effective action until the results of the analysis of each cargo were available. North Somerset Council held one maize cargo at port soon after the EC Emergency Measures came into force in April and documents released by the FSA suggest similar action was taken by Perth and Kinross Council. The EC Emergency measures<sup>33</sup> directed member states to focus on maize gluten and brewers grains produced from or containing genetically modified maize from the USA. In the North Somerset case, no analytical documents accompanied the cargo and therefore it was detained under the existing powers (The Genetically Modified Feed (England) Regulations 2004).

Cargoes contaminated with Bt10 have been found and impounded in Japan (ten cargoes) and Ireland (one). The contaminated cargoes have continued to arrive in Japan until at least August 2005. According to a briefing prepared for Department of Health Ministers by the FSA, the European Commission has estimated that 50-70 large shipments of maize gluten are imported into the EU from the USA each year. Of this one sixth enters via UK ports *"which equates to about one shipment every 5 weeks"*.<sup>34</sup>

In correspondence with GM Freeze<sup>35</sup>, the FSA stated that *"sampling for detection for the presence of Bt10 maize in maize food and feed products imported from the USA commenced on 20 September 2005"*. Thus there was a delay of six months between the FSA becoming

aware of the Bt10 contamination and them organising a monitoring programme in the UK, and around a 20 week delay since the UK's approved laboratories first received the reference materials necessary for analysis from the EC.

### 6.1 Lessons from the Bt10 Contamination in the UK

The import of any Bt10 maize into the UK would have been illegal under EC law because it was not approved under either directive 2001/18 or Regulation 1829/2003. However, prior to the publicity about the contamination in March 2005, maize farmers and traders would not have been aware of the existence of Bt10 maize and therefore would not have been on the look out for it.

The usual approach to testing for GM presence in maize would be to carry out a general scan for the presence of any GM trait. This type of analysis does not distinguish between approved and unapproved GM traits. It would only have been possible to detect the presence of Bt10 if maize cargoes had been specifically analysed for all approved GM traits in maize, which would then have been eliminated. If the GM presence was still confirmed but not identified at that point it would have been safe to conclude that it was an unapproved trait. However, as the GM construct in Bt10 was identical to the one in Bt11, apart from the ampicillin gene, care would have been required to spot the difference. The fact that Syngenta did not spot their mistake for at least four years suggests that either they failed to look properly or their analysis was not up to standard.

This was not the first time in the USA when unapproved GM traits made it into the food chain. In 2000, a GM maize crop containing the Starlink gene was found to have contaminated human food chains, despite only receiving approval from the USA's regulators as an animal feed. The maize contained a GM trait to produce an insect toxin and the US regulators were concerned about the possible allergenicity of the protein it produced in the plant for humans, hence the animal feed only approval. The impact on the US food industry was massive and thousands of maize based products were withdrawn from sale, costing billions of dollars. Starlink contaminated maize was also exported in US Food Aid.

The first lesson learnt from the Bt10 incident is that all cargoes need to be analysed for individual GM traits to confirm that the description of the GM part of the load is correct and that no unauthorised traits are present. The Bt10 mistakes could be repeated for other experimental crops currently undergoing field trials in the USA, which include a range of crops modified to produce pharmaceuticals or nutraceuticals (GM traits designed to add "healthy" chemicals to food or feed). In 2004, there were over one thousand field trials licensed in the USA, containing over 2000 genetically modified traits which could cover nearly 57,000 acres (22,500 hectares).<sup>36</sup> There is therefore considerable potential for a repeat of the Bt10 incident to take place in the future either through cross pollination in the field or accidental mixing of seeds or crops. These may involve potentially more harmful GM traits than Bt10. Pharmaceutical and nutraceuticals contained in food or feed would be of major concern because they are designed to be biologically active.

Another lesson arising from the Bt10 incident is therefore that UK GM regulators need to have the capability and capacity to look for the unexpected and unapproved GM trait as well as verifying that the cargo only contains approved material. This can only be achieved if there is more co-operation and openness, including the release by biotechnology companies of all GM reference materials for commercial and experimental traits to EU approved laboratories. This would enable European regulators to do their job without the precise nature of any experimental GM traits being made public.

A third lesson is that all cargoes need to be checked and verified before being allowed to leave ports and enter into food and feed chains. Once an unapproved and potentially harmful gene is released into the food chain, it could get into millions of individual food and feed items. The costs of retrieving contaminated items rapidly climbs and could be very damaging for companies involved in such clean-up. With whom liability lies for the costs of such an incident lies in the UK are unclear. Clear legislation making GMO consent holders for the traits strictly liable for all harm to health, the environment or the economy would bring clarity.

## 6.2 GM Rice from China

It has also been announced since this survey was started in February that China grew and exported GM rice in 2004, despite the lack of approval for the commercial sale of such a product in the EU or cultivation in China. Greenpeace China, who discovered the GM rice in the field,<sup>37</sup> claim that 13,500 tonnes could be exported in 2005. The UK imports around 400 tonnes of rice from China a year directly although it may also arrive via other EU members States such as The Netherlands, Germany, Belgium and Ireland.<sup>38</sup>

This is another example of how unauthorised GM food could enter the UK food chain without being picked up by the regulators. In this case, the lack of any GM rice approvals in China meant that the authorities would not have been aware of the possible GM presence and therefore would not have had monitoring plans in place. It illustrates the problems which could arise in the future in ensuring that labelling on food and feed is accurate if more GM crops are commercialised, tested or released illegally in different countries around the world.

## 6.3 Maize Imports from the USA

In summer 2004, Greenpeace activists boarded a ship in the Bristol Channel containing maize gluten bound for Bristol Docks from the USA. They were concerned that the cargo might contain unapproved GM maize and therefore should not be permitted to enter the UK food chain. Thirteen people were subsequently

charged with public nuisance for boarding the vessel but were acquitted at Cardiff Crown Court in September 2005.

After the verdict was announced, Greenpeace released the results of its own monitoring of maize cargoes from the USA carried out between October 2003 and January 2004 prior to the boarding of the ship.<sup>39</sup> All four samples taken were positive for GM presence. Three unapproved (at the time) GM maizes were identified. Two, NK603 and GA21, had already received favourable opinions as to their safety from the European Food Safety Agency (EFSA) and therefore, under European Law could enter the UK if their presence did not exceed 0.5% provided their presence could be proven to be "adventitious or technically unavoidable". The third unapproved maize was Mon 863 which had no positive EFSA opinion at the time and therefore any presence in the cargo would have been illegal. This case shows the UK's vulnerability to the import of unapproved GM crops. As Greenpeace pointed out in their press briefing, the presence of large numbers of experimental GM maize crops modified to produce pharmaceutical products in the USA increases the chances of unauthorised products being exported to the UK.

## 7. Discussion

The survey results suggest that the level of monitoring of food and feed entering the UK via the ports from outside the EU to enforce the 2004 Traceability and Labelling Regulations remains very low compared with the amounts of

**Table 3** Maize and Soya Imports into the UK from Non EC Countries 2003 and 2004 in tonnes<sup>40</sup>

Description	2003	2004
Soya cake and meal	1,367,641	1,285,334
Soya beans	923,938	704,565
Maize other than seed, unmilled	217,547	211,712
Maize gluten	22,801	20,503
Maize flour	4,200	3,423
Maize groats and meal	1,091	1,470
Maize prepared cereal	1,003	908
Maize seed unmilled	174	18
Maize flaked or rolled	10	13
Maize pellets		18
Maize oil-cake and solid residues	5	
<b>Total</b>	<b>2,538,410</b>	<b>2,227,965</b>

maize and soya imported. Table 2 shows the breakdown of the two million plus tonnes of soya and maize products which is imported each year, excluding derivatives such as vegetable oil, syrup, starch and lecithin. All these could potentially contain GM traits either by design or by accident depending on the country of origin. DARDNI reports there are 32 different GM traits in maize so far.

As some GM maize has been grown commercially in Spain and very small amounts in Germany for a number of years, there is also potential for GM maize to enter the UK from mainland Europe. A total of 1.316 million tonnes of maize products came into the UK from other EU member states during 2003 and 1.166 million tonnes in 2004.<sup>41</sup> Several ports handle food and feed imports from the rest of the EU but not outside the EU. PHAs are required to ensure that any labelling of imported maize was correct and the cargoes fully traceable to the farm of their origin. During the survey it was revealed that there has been no PHA for the Channel Tunnel since it opened and that this is only now being addressed by the Food Standards Agency. It is therefore possible that maize and soya products moving by road or rail (if any) could enter the UK via the tunnel and would go unchecked.

### **Sampling**

The low level of sampling by the authorities responsible for animal feed and human food at the ports suggests that there is ample scope for GM crops to enter the UK unmonitored and unlabelled.

The Bt10 incident in 2005 and Greenpeace's monitoring of four maize cargoes have illustrated the need for robust sampling to occur in order to pick up imports containing unauthorised GM traits. However, the survey results suggest that monitoring GM content in cargoes relies heavily on paper work and analysis carried out before the cargoes were loaded. Data presented<sup>42</sup> to the "Non GM Soya Summit" in Brussels in June 2005 for a barge load of 1,200 tonnes of non-GM soya beans passing into Switzerland highlighted the need to use a robust sampling protocol to ensure that an accurate level of GM in each load is recorded. Single samples taken on loading and unloading gave GM content at 0.35% and 0.45% respectively (ie below the

labelling threshold). However, when the barge load was broken down into individual loads for feed producers the GM content of each load varied from zero to over 1.2%. The reliance on one analysis supplied by the exporter to verify what the cargo contains may therefore prove insufficient to ensure that labelling is accurate. In the case of imports of processed derivatives, such as oil and lecithin, UK regulators would have to rely on analysis of the raw crop from samples taken before processing. To ensure that these truly reflect the GM content of the raw materials, robust sampling protocols would also have to be used, involving multiple sampling of each cargo.

### **GM Derivatives**

The additional requirements of the 2004 Regulations, compared with the 1998 Regulations, to enforce labelling for products derived from GM crops and in animal feed, must have increased the monitoring required at ports and in consumer foods and formulated animal feeds. However, the responses to the survey clearly show that a majority of the authorities did not expect to increase staff or operational budgets. A majority of respondents also felt that the need to enforce the Regulations for ingredients derived from GM crops and animal feeds would increase their enforcement costs. However, the new labelling threshold of 0.9% (down from 1% in the 1998 Regulations) was not seen as such a significant factor when it came to enforcement costs.

### **FSA Monitoring**

In correspondence with GM Freeze,<sup>43</sup> the FSA stated that "Monitoring of the GMO Traceability and Labelling Regulations 2004 has not been included as a priority for the imported food project to date" of the joint LACORS/FSA Sampling Co-ordination Working Group. Any surveying financed by the FSA is "ad-hoc". The FSA has carried out a survey "soya ingredients in meat and other products" in spring 2005 although the results were unavailable at the time of publication. The survey covered ten local authorities and each authority was requested to obtain a minimum of five samples of raw materials going into the products including textured soya protein destined for vegetarian products. The total budget for this survey work was £9200.<sup>44</sup> The local authorities received £30 for each sample they collected<sup>45</sup>

which equates to a minimum of £1500 for the survey. The FSA's previous survey was of bakery products in 2002.

More worrying are press reports that *"UK enforcement authorities are likely to focus initially on checking products declaring GM-Free"*.<sup>46</sup> This would suggest that companies that make no such claims would not be subject to the same level of enforcement as companies that have made GM free claims. Thus many of the larger food retailers and manufacturers may escape monitoring and enforcement. The effect of such targeting of enforcement action would be to discourage companies from marketing GM-free products.

### **Budgets for Monitoring**

Budgets for food monitoring for Trading Standards and Environmental Health Departments and PHAs are not sufficient to finance the sort of monitoring programme necessary to ensure that labelling rules for authorised traits are being complied with and that unauthorised traits do not enter the market. Although Local Authority officers responding to the survey felt they could provide some level of enforcement by monitoring traceability paperwork from further down the food chain, it was also clear that they recognised that the 2004 Regulations would require additional staff and operational budget. Indeed the FSA recognised this fact in its consultation on the regulations when they predicted a 78% increase in enforcement cost to £400,000 as a result of increased volume of work by local authority officers.

It is clear from the respondents to the survey that no extra money will be forthcoming to enable increased enforcement costs to be covered. The FSA's view that costs of enforcement were expected to increase "only marginally" and that "local authority trading standards officers may be able to monitor compliance with the new regulations within their existing programme of visits" and that "the cost of sample analysis for GM ingredients should remain consistent with the current costs of testing" confirms that this is likely to be the case.

### **Enforcement**

The general view of respondents on who should be responsible for enforcement was that local

authorities and PHAs were the right places for enforcement to take place. Comments by some suggested that high sampling costs would mean that their level of enforcement would be low and that a local/national partnership would be needed. The costs of obtaining analytical evidence sufficient to mount a successful case against a company for breaching the regulations were put as high as £600 by one respondent. In some authorities this would be more than 10% of their entire budget for food sampling. This again supports the view of some respondents that additional funding would be needed.

This raises the question of how such funding would be most efficiently utilised. The experience in the USA, following the accidental release of Starlink maize into the human food chain, is that recall of consumer products is very expensive. A company selling a product which was found to be incorrectly labelled because the GM content in one ingredient exceeded 0.9% would be faced with very high re-call costs, loss of immediate sales and perhaps even long-term sales reductions and damage to reputation. An unapproved trait entering the food chain would have even greater cost if it was more widely distributed and companies would face potential liability for legal claims for loss of income or even health effects.

Logically the best place to enforce the regulation for traceability and labelling are at the port where GM cargoes or potentially GM cargoes enter the country. The current situation where more than one department of the local authority or government is involved at some ports could lead to communications problems and duplication of effort. The action taken by the Irish government in impounding a cargo of Bt10 contaminated maize demonstrates that prompt action can avert a potentially serious and costly situation developing.

All cargoes arriving in the UK would require to be sampled using a protocol robust enough to provide an accurate picture of the level of GM present and the GM traits present. Those found to be either GM-free or containing only approved traits and correctly labelled could then be allowed to enter the food chain. This would not absolve companies further up the chain from their responsibilities under the Traceability and Labelling Regulations because they would still have to demonstrate due diligence in ensuring

that their products were accurately labelled. It would however greatly reduce the chances of unauthorised GM traits entering the market. While GM crops and processed products are entering the country, the possibility that raw materials for food and feed manufacture could be contaminated after the port of entry cannot be ruled out and companies would need procedures in place to prevent this from happening to enable them to take advantage of the 0.9% threshold exemption for labelling. Logically, the funding for a comprehensive GM monitoring system at ports should come from central government rather than having an expectation that local authorities should stretch already over-extended budgets and staff even further. In this way, cargoes entering the UK food and feed chains would be verified as only containing approved GMOs so the potential problems and costs arising from the presence of unauthorised GM traits would not occur. Such a system would also be fair in that all raw materials would be monitored instead of only products labelled as GM-free already on sale.

## 8. Conclusions

The current level of enforcement of the Genetically Modified Organisms (Traceability and Labelling) Regulations 2004 in England, Wales, Scotland and Northern Ireland is not robust enough to ensure that only genetically modified organisms (GMOs) approved for commercial sale in the EU enter the food chain. Also the current enforcement activity does not provide adequate guarantees that labelling of food and animal feed for authorized GM content is accurate and reliable.

It is disturbing that minimal activity is reported by some regulators, suggesting enforcement of the Regulations has a low priority with some local authorities. This may reflect the 'luke-warm' attitude of the Food Standards Agency (FSA) towards them. The low level of enforcement activity is to a large extent due to the tight budgets which local authorities have for carrying out all monitoring of food and animal feed across the range of regulations they have to enforce, which limits the number of samples that can be taken. As a result, there is over reliance by regulators on monitoring traceability paper trails without verifying the GM content of food and feed by independent analysis. The central

authority (the Food Standards Agency) has failed to provide additional finance to all local authority Trading Standards Departments, Environmental Health Departments and Port Health Authorities (PHAs) to enable them fulfill their duties. This is despite the FSA recognising that enforcement costs will rise by 78%<sup>47</sup> because of the additional need to monitor animal feed and derivatives of GM crops in the 2004 Regulations. There is an immediate need for the FSA to increase their commitment to the enforcement of the 2004 Regulations by increasing funding and support to the PHAs - key regulator at the ports.

Failure to address the financial short-fall leaves the UK vulnerable to unauthorised and potentially harmful experimental genes entering the food and feed chain in the UK, such as Bt10 maize. Bt10 may have been entering the UK undetected for four years in shipments of maize from the USA. Ships carrying maize gluten for animal feed into the UK from the USA are estimated to arrive at the rate of one every five weeks.

It would also make sense for responsibility for monitoring food and feed imports at ports for GM presence to be in the hands of one department rather than shared between the PHAs and Trading Standards in England and PHA and DARDNI in Northern Ireland, as is that case at present. As PHAs are on the spot where food and feed enter the country, they should take prime responsibility for enforcing the regulations on imports and be funded accordingly by the FSA. In the long run this would be the most effective way to prevent unauthorised and illegal GMOs entering the country.

A briefing for the Secretary of State prepared for the Council of Ministers meeting in April 2005, and released by the FSA to GM Freeze on 8th August 2005, made it clear that civil servants see the significance of the Bt10 incident. When referring to a future report on Regulation 1929/30 (which regulates the authorisation and marketing of GM food and feed) the briefing said "*No doubt the Bt10 incident will figure in this report and may lead GM critics to call for tighter regulation of imports*". Few would argue with this point of view when there is potential for unauthorised GM crops, some of which could have serious health implications and be very costly to clear-up, to enter the UK.

In the meantime, local authorities will be required to carry on with insufficient finances to enforce regulations which have massive public support and support from the three main political parties. Parliament might rightly ask Government why Regulations are approved when there is insufficient budget allocated to allow them to be enforced to the level that the public is expecting.

The FSA needs to rapidly move from its current luke-warm approach to enforcement to positive leadership committed to adequately funding and supporting local authorities to do the job at local level.

## **9. Recommendations**

1. The enforcement of the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004 should be financed from the central budget of the Food Standards Agency and delivered by local authorities.
2. Cargoes arriving at the ports from countries where GM crops are grown should be the primary target of monitoring programmes.
3. Responsibility for monitoring and enforcement at the ports should be with a single local authority department – the PHAs. Their funding should increase to enable them to carry out this duty effectively.
4. Cargoes should be held at port until monitoring has verified that there are no unauthorised GM traits present and ascertained the percentage content of authorised GM in each cargo.
5. Cargoes containing unauthorised traits should be returned to the country of origin at the exporter's expense.
6. The Authorities responsible for monitoring cargoes should be provided by the FSA with clear sampling protocols which give the minimum number of samples needed to verify the GM content of cargoes of varying sizes.
7. Monitoring programmes should include crops transhipped from other EU ports or grown in the EU, including any entering via the Channel Tunnel.
8. Local authorities should also be funded by the FSA to carry out random checks on retail samples and animal feed samples to ensure that labelling is accurate and companies are keeping the required traceability paper trail.
9. Retail monitoring should not specifically target companies who have chosen to market their products as GM-free but include all companies selling products likely to be contaminated with approved or unapproved GMOs.
10. Fines arising from prosecutions should be used to enhance existing monitoring programmes including laboratories capable of identifying and quantifying a full range of GM traits.
11. Biotechnology companies should be required under EU law to provide analytical methods and reference materials for all the GM traits they have released commercially or experimentally anywhere for the same crop species as a pre-condition for receiving a marketing consent for a GMO in the EU.
12. Should any contamination of the food/feed chain with unauthorised GM traits take place, the biotechnology company which developed the trait should be liable for any harm arising from the contamination to health, the environment or the economy.

# Appendices

## Appendix 1

Questionnaire used for Trading Standards Departments in England which was adapted for their counterparts in Wales, Scotland and Northern Ireland

1. Did your responsibilities include the enforcement of The Food Labelling (Amendment) Regulations 1999 (the regulations that require soya and maize ingredients to be labelled if GM protein or DNA contents are over 1%)?

Yes  No  Don't know

2. Has your department prosecuted any company or individual for breaching these regulations?

Yes  No  Don't know

If yes what was the outcome of the case?

.....

3. Has your department investigated any company or individual for breaching these regulations but not prosecuted?

Yes  No  Don't know

If "yes" how many cases?

Number.....(please state)

If there was no prosecution, why not?  
Please give reasons

.....

.....

4. How many food samples has your department analysed in the enforcement of the regulations in the last financial year (2003/04)?

Number.....  
(please state approximate number)

Please state which of these responses most closely agrees with your view on the following statements (read out).

5. My department was sufficiently financed to ensure that The Food Labelling (Amendment) Regulations 1999 were enforced so that Labelling was accurate on most consumer products in the last financial year (2003/04).

Strongly agree  Agree  Neutral   
Disagree  Strongly disagree

6. My department was sufficiently financed to ensure that The Food Labelling (Amendment) Regulations 1999 were enforced so that Labelling was accurate in restaurants and other catering establishments in the last financial year?

Strongly agree  Agree  Neutral   
Disagree  Strongly disagree

7. Are you aware that the GM Food and Feed Regulation (EC) No. 1830/2003 through the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004 came into force on 18th April 2004?

Yes  No  Don't know

8. Do you have responsibility for monitoring animal feed imports at any ports in your area?

Yes  No  Don't know

If "yes" please name the port

.....

9. Have you received any guidance on enforcing these regulations from the Food Standards Agency since the draft regulations were published in spring 2004?

Yes  No  Not sure

10. Have you received any guidance on enforcing these regulations from the Department of Environment Food and Rural Affairs since the draft regulations were published in spring 2004?

Yes  No  Not sure

11. Will your department be increasing the staff allocated to enforce the 2004 regulations compared with the previous GM labelling regulations?

Yes  No  Not sure

If "yes", by how many full time equivalents?

.....(please state)

**12.** Will your department be increasing the operational budget to enforce the 2004 regulations compared with the previous GM Labelling regulations?

Yes  No  Not sure

If "yes" by how much in £  
.....(please state)

**13.** How many Trading Standards staff have you employed in your department?

Number in full time equivalents .....  
(please state)

**14.** What was your approximate expenditure on all sampling to monitor food labelling and food safety in the last financial year 2003/04?

Amount in £ .....(please state)

Please state which of these responses most closely agrees with your view on the following statements.

**15.** My department was sufficiently financed to ensure that the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004 were enforced so that labelling was accurate on most consumer products and animal feed.

Strongly agree  Agree  Neutral   
Disagree  Strongly disagree

**16.** The requirement that derivatives of GM crops are to be labelled, regardless of GM presence (eg vegetable oil), will increase enforcement costs for my department.

Strongly agree  Agree  Neutral   
Disagree  Strongly disagree

**17.** The requirement that animal feed (including all GM derivatives) will have to be labelled will increase enforcement costs for my department.

Strongly agree  Agree  Neutral   
Disagree  Strongly disagree

**18.** The requirement that GM presence below 0.9% can only avoid the need to label if its presence is "adventitious or technically unavoidable" will increase enforcement costs for my department.

Strongly agree  Agree  Neutral   
Disagree  Strongly disagree

**19.** My department will increase staff and monitoring to ensure that the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004 are enforced so that labelling is accurate on most consumer products and animal feed.

Strongly agree  Agree  Neutral   
Disagree  Strongly disagree

**20.** What laboratory does your department use for testing for GM presence and percentage presence in food or feed?

- Own county analyst
- Other county analyst
- Private UK laboratory
- Public overseas
- Private overseas
- Other (please specify)

.....

Name of laboratory used (please write)

.....

**21.** How much do you pay for routine testing of one food sample for GM presence only without identifying the trait?

Amount £.....(please state)

**22.** How much do you pay for routine testing of one food sample to identify the GM trait and percentage present?

Amount £.....(please state)

**23.** What would the cost of testing per sample be if your department was considering prosecuting a company or individual under the Genetically Modified Organisms (Traceability and Labelling) (Wales) Regulations 2004?

Amount in £.....(please state)

24. Which public body(ies) do you consider best placed to monitor GM content of imported crops and processed food or feed?

.....  
.....(please state)

25. Do you have any further comments on the role your authority plays in the enforcement of the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004?

THANK YOU VERY MUCH FOR YOU CO-OPERATION

**Appendix 2**

Questionnaire used for Port Health Authorities in England adapted for their counterparts in Wales, Scotland and Northern Ireland.

1. Did your responsibilities include the enforcement of The Food Labelling (Amendment) Regulations 1999 (the regulations that require soya and maize ingredients to be labelled if GM protein or DNA contents are over 1%)?

Yes  No  Don't know   
If "yes" go to Q.;2 if "No" or "don't know" go to Q.4.

2. How many samples has your authority analysed for GM content in the enforcement of the regulations in the last financial year (2003/04)?

Number.....(please state approximate number)

Please state which of these responses most closely agrees with your view on the following statements (read out).

3. My authority was sufficiently financed to ensure that The Food Labelling (Amendment) Regulations 1999 were enforced so that the labelling of imported food was accurate in the last financial year (2003/04).

Strongly agree  Agree  Neutral   
Disagree  Strongly disagree

4. Are you aware that the GM Food and Feed Regulation (EC) No. 1830/2003 came into force on 18th April 2004 through the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004?

Yes  No  Not sure

5. Do Trading Standards have responsibility for animal feed imports at the ports under your control?

Yes  No  Not sure   
If "yes" please name the trading standards department.....

6. Have you received any guidance on enforcing these regulations from the Food Standards Agency since the draft regulations were published in spring 2004?

Yes  No  Not sure

7. Have you received any guidance on enforcing these regulations from the Northern Island Office since the draft regulations were published in spring 2004?

Yes  No  Not sure

8. Will your authority be increasing the staff allocated to enforce the 2004 regulations compared with the previous GM labelling regulations?

Yes  No  Not sure

If "yes", by how many full time equivalents?  
.....(please state)

9. Will your authority be increasing the operational budget to enforce the 2004 regulations compared with the previous GM labelling regulations?

Yes  No  Not sure

If "yes" by how much in £  
.....(please state)

10. How many staff have you employed in your department ?

Number in full time equivalents .....  
(please state)

11. What was the expenditure on all sampling to monitor food labelling and food safety in the last financial year 2003/04)?

Amount in £ .....(please state)

Please state which of these responses most closely agrees with view on the following statements.

12. My authority is sufficiently financed to ensure that the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004 are enforced so that labelling is accurate on most consumer products and animal feed.

Strongly agree  Agree  Neutral  Disagree  Strongly disagree

13. The requirement that derivatives of GM crops are to be labelled, regardless of GM presence (eg vegetable oil), will increase enforcement costs for my authority.

Strongly agree  Agree  Neutral  Disagree  Strongly disagree

14. The requirement that animal feed (including all GM derivatives) will have to be labelled will increase enforcement costs for my authority.

Strongly agree  Agree  Neutral  Disagree  Strongly disagree

15. The requirement that GM presence below 0.9% can only avoid the need to label if its presence is "adventitious or technically unavoidable" will increase enforcement costs for my authority.

Strongly agree  Agree  Neutral  Disagree  Strongly disagree

16. My authority will increase staff and monitoring to ensure that the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004 are enforced so that imports are correctly labelled when leaving the port.

Strongly agree  Agree  Neutral  Disagree  Strongly disagree

17. What laboratory does your authority use for testing for GM presence and percentage presence in food or feed?

- Don't sample
- Own county analyst
- Other county analyst
- Private UK laboratory
- Public overseas
- Private overseas
- Other (please specify)

.....

Name of laboratory used (please write)

.....

18. How much do you pay for routine testing of one food sample for GM presence only without identifying the trait?

Amount £.....(please state)

19. How much do you pay for routine testing of one food sample to identify the GM trait and percentage present?

Amount £.....(please state)

20. What would the cost of testing per sample be if your department was considering prosecuting a company or individual under the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004?

Amount £.....(please state)

21. Which public body(ies) do you consider best placed to monitor GM content of imported crops and processed food or feed?

.....(please state)

22. Do you have any further comments on the role your authority plays in the enforcement of the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004?

.....

.....

THANK YOU VERY MUCH FOR YOU CO-OPERATION

### **Appendix 3** Local Authorities Responding to the Survey

#### **English Trading Standards Departments**

Blackpool  
Barnsley  
Cheshire  
NE Lincolnshire  
Isle of Wight  
Milton Keynes  
Bedfordshire  
Portsmouth  
Corporation of London  
Middlesbrough  
Birmingham  
Worcestershire  
Durham  
Coventry  
West Sussex  
Norfolk  
Lincolnshire  
Bristol  
North Somerset  
Suffolk  
Southampton

#### **Welsh Trading Standards Departments**

Ceredinion  
Merthyr Tydfil  
Isle of Anglesey  
Newport  
Conwy  
Carmarthenshire

#### **Scottish Environmental Health / Trading Standards Departments**

West Lothian  
Moray  
North Ayrshire  
Shetland Islands  
Scottish Borders  
South Lanarkshire  
Glasgow  
Edinburgh  
Renfrewshire  
East Ayrshire

#### **Northern Ireland Environmental Health Departments**

Ballymena BC  
Ballymoney  
Coleraine  
Belfast City Council

#### **Port Health Authorities**

Hull and Goole  
Fenland  
London  
Southampton  
Plymouth  
Boston  
Merseyside  
Bristol  
Suffolk Coastal  
River Tees  
Highland  
South Ayrshire  
Cardiff  
Great Yarmouth

## Appendix 4

### Summary of Results to the Survey on the Enforcement of the GM Labelling and Traceability Regulations

#### Response rates

	No LAs	Number contacted	No replies	%overall	%sample
England	136	59	21	15	36
Wales	22	12	6	27	50
Scotland	32	19	14	28	47
Northern Ireland	23	9	4	17	39
PHA (ports only)	80	24(food/feed imports only)	14	17	71
Overall	293	123	59	20	48

1. Did your responsibilities include the enforcement of The Food Labelling (Amendment) Regulations 1999 (the regulations that require soya and maize ingredients to be labelled if GM protein or DNA contents are over 1%)?

	Yes	No	Don't know	%Yes	%No	%Don't know
England TS	20	0	1			
Wales TS	6	0	0			
Scotland EHO	8	1	0			
N Ireland EHO	2	0	2			
Total	35	1	3	90	3	8
PHA	6	7	1	43	50	7
Total	41	8	4	77	15	8

2. Has your department prosecuted any company or individual for breaching these regulations?

	Yes	No	Don't know	%Yes	%No	%Don't know
England TS	1	15	0			
Wales TS	0	6	0			
Scotland EHO	0	8	0			
N Ireland EHO	0	4	0			
Total	1	32	0	3	97	0
PHA	0	0	0			
Total	1	32	0	3	97	0

If yes what was the outcome of the case? One case resulted in £17,000 fine.

**3. Has your department investigated any company or individual for breaching these regulations but not prosecuted?**

	Yes	No	Don't know	%Yes	%No	%Don't know
England TS	2	13	0			
Wales TS	0	6	0			
Scotland EHO	1	7	0			
N Ireland EHO	0	4	0			
Total	3	30	0	9	91	0
PHA						
Total						

If "yes" how many cases? Three cases - identity preservation in place therefore due diligence.

**4. How many food samples has your department analysed in the enforcement of the regulations in the last financial year (2003/04)?**

	Number...	Average	Range
England	6.65		0-30
Wales	1.20		0-5
Scotland	64.5		0-484
NI	0		0
PHA	6.7		0-20

**Pattern of Sampling in 2003/04**

	None	Some	No answer
England	13	8	1
Wales	3	2	1
Scotland	2	5	3
NI	4	0	0
Total	22	15	5
%	52	36	12
PHA	3	3	8
%	21	21	57
Total	25	18	13
%	44	33	23

**5. My department was sufficiently financed to ensure that The Food Labelling (Amendment) Regulations 1999 were enforced so that labelling was accurate on most consumer products in the last financial year (2003/04).**

	SA	A	N	D	SD	%SA	%A	%N	%D	%SD
England TS	0	2	5	6	0					
Wales TS0	0	0	3	1	1					
Scotland EH	0	3	0	1	0					
N Ireland EH	0	3	1	0	0					
Total	0	8	9	8	1	0	31	35	31	4
PHA	0	2	1	0	1					
Total	0	10	10	8	2	0	33	33	27	7

SA Strongly agree; A Agree; N Neutral; D Disagree; SD Strongly disagree

6. My department was sufficiently financed to ensure that The Food Labelling (Amendment) Regulations 1999 were enforced so that labelling was accurate in restaurants and other catering establishments in the last financial year?

	SA	A	N	D	SD	%SA	%A	%N	%D	%SD
England TS	0	5	4	4	0					
Wales TS0	1	2	1	1						
Scotland EH	0	3	0	1	0					
N Ireland EH	0	2	2	0	0					
Total	0	11	6	6	1	0	42	31	23	4
PHA										
Total										

7. Are you aware that the GM Food and Feed Regulation (EC) No. 1830/2003 through the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004 came into force on 18th April 2004?

	Yes	No	Don't know	%Yes	%No	%Don't know
England TS	19	0	0			
Wales TS	5	0	1			
Scotland EHO	7	1	1			
N Ireland EHO	3	0	1			
Total	34	1	3	89	3	8
PHA	8	2	1			
Total	42	3	4	86	6	8

8. Have you received any guidance on enforcing these regulations from the Food Standards Agency since the draft regulations were published in spring 2004?

	Yes	No	Don't know	%Yes	%No	%Don't know
England TS	8	3	9			
Wales TS	0	2	4			
Scotland EHO	4	2	3			
N Ireland EHO	1	3	0			
Total	13	10	16	33	26	41
PHA	0	7	4			
Total	13	17	20	26	34	40

9. Have you received any guidance on enforcing these regulations from the Department of Environment Food and Rural Affairs since the draft regulations were published in spring 2004?

	Yes	No	Don't know	%Yes	%No	%Don't know
England TS	3	8	9			
Wales TS	0	4	2			
Scotland EHO	3	3	3			
N Ireland EHO	0	3	1			
Total	6	18	15	15	46	38
PHA	0	6	1			
Total	6	24	16	13	52	35

10. Will your department be increasing the staff allocated to enforce the 2004 regulations compared with the previous GM labelling regulations?

	Yes	No	Don't know	%Yes	%No	%Don't know
England TS	0	20	0			
Wales TS	0	6	0			
Scotland EHO	0	9	1			
N Ireland EHO	0	4	0			
Total	0	39	1	0	97	3
PHA	0	9	2			
Total	0	48	3	0	94	6

11. Will your department be increasing the operational budget to enforce of the 2004 regulations compared with the previous GM labelling regulations?

	Yes	No	Don't know	%Yes	%No	%Don't know
England TS	0	20	0			
Wales TS	0	5	1			
Scotland EHO	0	9	0			
N Ireland EHO	0	4	0			
Total	0	38	1	0	97	3
PHA	0	8	2			
Total	0	46	3	0	94	6

12. How many Trading Standards staff/EHO have you employed in your department?

	Number in full time equivalents range
England	1-72.
Wales	6-15
Scotland	4-17
N Ireland	2-12.5
PHA	3-40

13. What was your approximate expenditure on all sampling to monitor food labelling and food safety in the last financial year 2003/04?

Range	£
England	5,800-137,000
Wales	9,000-20,000
Scotland	10,000-112,000
N Ireland	6,000-18,000
PHA	0-92,000*

**14.** My department was sufficiently financed to ensure that the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004 were enforced so that labelling was accurate on most consumer products and animal feed.

	SA	A	N	D	SD	%SA	%A	%N	%D	%SD
England TS	0	3	6	4	0					
Wales TS0	0	4	0	1						
Scotland EH	0	3	1	1	0					
N Ireland EH	0	2	2	0	0					
Total	0	8	13	5	1	0	30	48	19	4
PHA	0	2	4	1	1					
Total	0	10	17	6	2	0	29	49	17	6

**15.** The requirement that derivatives of GM crops are to be labelled, regardless of GM presence (eg vegetable oil), will increase enforcement costs for my department.

	SA	A	N	D	SD	%SA	%A	%N	%D	%SD
England TS	0	6	5	2	0					
Wales TS1	2	2	0	0						
Scotland EH	0	1	0	1	1					
N Ireland EH	0	2	2	0	0					
Total	1	11	9	3	1	4	44	36	12	4
PHA	1	4	2	1	1					
Total	2	15	11	4	2	6	44	32	12	6

**16.** The requirement that animal feed (including all GM derivatives) will have to be labelled will increase enforcement costs for my department.

	SA	A	N	D	SD	%SA	%A	%N	%D	%SD
England TS	0	7	5	0	0					
Wales TS1	3	1	0	0						
Scotland EH	0	1	2	0	1					
N Ireland EH	0	0	0	2	1					
Total	1	11	8	2	2	4	46	33	8	8
PHA	0	5	2	0	1					
Total	1	16	10	2	3	3	50	31	6	9

17. The requirement that GM presence below 0.9% can only avoid the need to label if its presence is "adventitious or technically unavoidable" will increase enforcement costs for my department

	SA	A	N	D	SD	%SA	%A	%N	%D	%SD
England TS	0	4	8	1	0					
Wales TS0	1	4	0	0						
Scotland EH	0	1	1	1	1					
N Ireland EH	0	1	2	0	1					
Total	0	7	15	2	2	0	27	58	8	8
PHA	1	4	2	0	1					
Total	1	11	17	2	3	3	32	50	6	9

18. My department will increase staff and monitoring to ensure that the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004 are enforced so that labelling is accurate on most consumer products and animal feed.

	SA	A	N	D	SD	%SA	%A	%N	%D	%SD
England TS	0	0	6	1	6					
Wales TS0	0	2	2	1						
Scotland EH	0	0	2	1	1					
N Ireland EH	0	0	2	0	2					
Total	0	0	12	4	10	0	0	46	15	38
PHA	0	3	0	4	1					
Total	0	3	12	8	11	0	9	35	24	32

19. What laboratory does your department use for testing for GM presence and percentage presence in food or feed?

	CA	OCA	PUK	OSPU	OSPR	Oth	%CA	%OCA	%PUK	%Oth
England TS	6	12	3	0	0	0				
Wales TS2	1	3	0	0	0					
Scotland EH	2	7	0	0	0	0				
N Ireland EH	0	0	3	0	0	0				
Total	10	20	9	0	0	0	26	51	23	0
PHA	1	3	0	0	0	6				
Total	11	23	9	0	0	7	22	47	18	12

CA Own county analyst; OCA Other county analyst; PUK Private UK laboratory; OSPU Public overseas; OSPR Private overseas; Oth Other

**20.** How much do you pay for routine testing of one food sample for GM presence only without identifying the trait?

Average £135.66    Range £95 - 250

**21.** How much do you pay for routine testing of one food sample to identify the GM trait and percentage present?

Range £106-600

**22.** What would the cost of testing per sample be if your department was considering prosecuting a company or individual under the Genetically Modified Organisms (Traceability and Labelling) (England) Regulations 2004?

Range £106-600

**23.** Which public body(ies) do you consider best placed to monitor GM content of imported crops and processed food or feed?

**25.** Do you have responsibility for monitoring animal feed imports at any ports in your area?  
Results used to identify English Trading Standards Departments with enforcement responsibility animal feed at ports.

THANK YOU VERY MUCH FOR YOU CO-OPERATION

## Appendix 5

### Abbreviations used in the Report

DARDNI – Department of Agriculture and Rural Development Northern Ireland  
DEFRA – Department of the Environment, Food and Rural Affairs  
EH – Environmental Health  
EHO - Environmental Health Office  
EU – European Union  
EC – European Commission  
EFSA – European Food Safety Agency  
FSA – Food Standards Agency  
GM – Genetically Modified  
GMO – Genetically Modified Organism  
LACORS – Local Authority Coordinators of Regulatory Services  
PCR – Polymerase Chain Reaction  
PHA - Port Health Authority  
TS – Trading Standards

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## ***Acknowledgements***

GM Freeze would like to thank all the local authority officers and government and agency officials for their help and co-operation in the collection of information used in this report. Our special thanks to the following for their comments on the questionnaire design: Robert Vint and Les Bailey (LACORS). Our sincere thanks go to Monica Riley, Robert Vint, Jeanette Longfield and Ian Foulkes for their very helpful comments on the draft report.

Thanks are also due to Phil Michaels, Legal Advisor at Friends of the Earth, for his assistance with requests for information under the Environmental Information Regulations and to Sarah Finch for proof reading and editing.

We are extremely grateful for the support of the Sheepdrove Trust, The Esmée Fairbairn Foundation, who funded the research and report, and UNISON, who funded printing.

The report was researched by Carrie Stebbings and Pete Riley of GM Freeze and written by Pete Riley.

Any errors or omissions are the responsibility of GM Freeze.

Designed by John Cross. Printed by Greenhouse, Southend.