

UK National Control Programme for *Salmonella* in chickens (*Gallus gallus*) reared for meat (Broilers)

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UK NATIONAL CONTROL PROGRAMME FOR *SALMONELLA* IN CHICKENS (*Gallus gallus*) REARED FOR MEAT (BROILERS)

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National Control Programme UK – *Salmonella* in CHICKENS REARED FOR MEAT (*Gallus gallus*)

Aim of the programme

To reduce or maintain the low prevalence of *Salmonellas* of public health significance in flocks of domestic fowl (*Gallus gallus*) on holdings in the UK producing chickens for meat for human consumption at least to the target levels set out in Regulation (EC) No 646/2007 which is a maximum percentage of meat chicken flocks remaining positive for *Salmonella* Enteritidis and *Salmonella* Typhimurium of 1% or less by 31 December 2011.

1.00 General

1.01 *Salmonella* has been recognised as an important zoonotic pathogen for many years. *Salmonella* Enteritidis and *Salmonella* Typhimurium have accounted for the majority of cases of human salmonellosis since the 1980s and have consistently been the most commonly implicated pathogens in general outbreaks of food-borne disease.

1.02 A programme for the control of the two most important *Salmonella* serovars of public health significance, *Salmonella* Enteritidis and *Salmonella* Typhimurium in breeding flocks of *Gallus gallus* has been in operation in the UK since 1989. In line with Regulation EC No 1003/2005 since 01 January 2007 the programme has been enhanced and includes also the control of *S. Hadar*, *S. Infantis* and *S. Virchow*. As a result of the control programme the number of *Salmonella* Enteritidis and *Salmonella* Typhimurium infected breeding flocks of *Gallus gallus* in the UK is currently very low. Of the other three *Salmonella* serovars, *Salmonella* Hadar, *Salmonella* Infantis and *Salmonella* Virchow, the occurrence is likewise at very low levels. Breeding flocks which are confirmed to be infected with *S. Enteritidis* or *S. Typhimurium* are compulsorily slaughtered.

1.03 Information was submitted to the Commission relating to the occurrence of *Salmonella* isolates in breeding flocks in the UK in 2004 (SANCO/1143/2005 http://europa.eu.int/comm/food/food/biosafety/Salmonella/impl_reg_en.htm).

1.04 Since that report, the results of the UK *Salmonella* control programme are reported annually to the Commission and are published by the European Food Safety Authority (EFSA) in the Community Summary Report on Trends and Sources of Zoonoses, Zoonotic Agents, Antimicrobial resistance and Foodborne outbreaks in the European Union. The reports for 2005 and 2006 are available on the EFSA website at: http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1178671312912.htm
The reports submitted by the UK for the analysis are available on the Defra website at <http://www.defra.gov.uk/animalh/diseases/zoonoses/trends-sources.htm>

1.05 The success of the control programme in breeding flocks means that the day old chicks to be reared for meat which are placed on farms should be free of *S. Enteritidis* and *S. Typhimurium*.

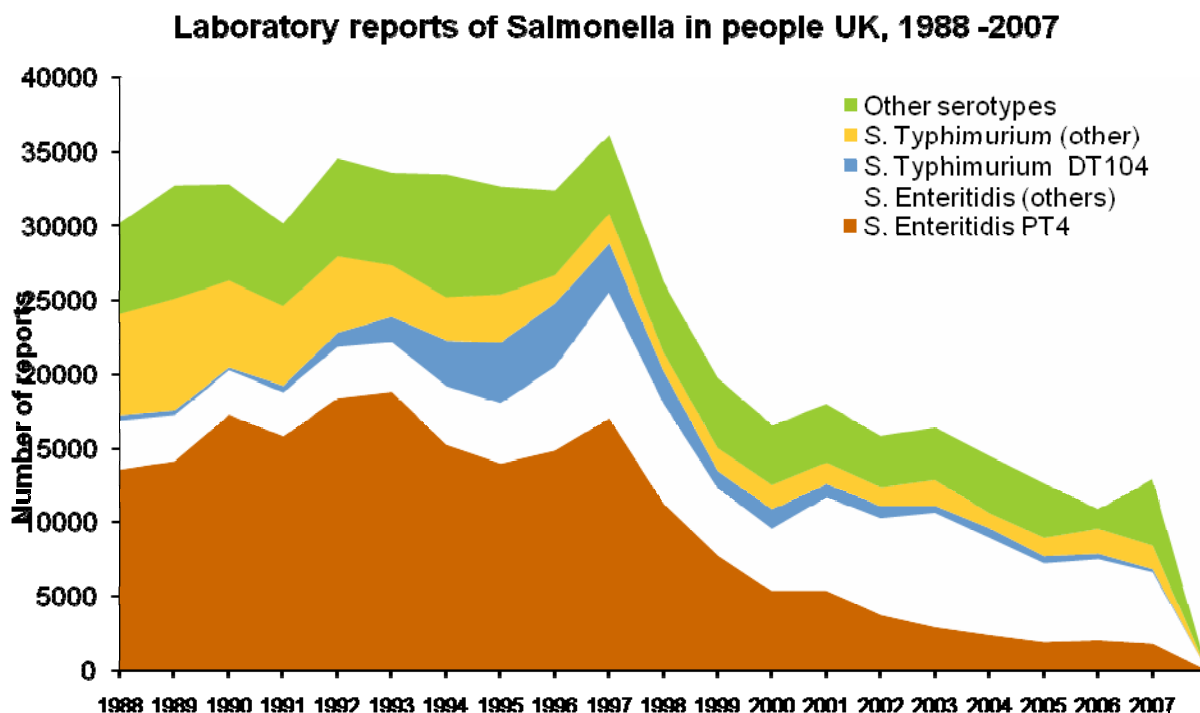
1.1.0 The occurrence of the zoonosis or zoonotic agent concerned in the Member State.

1.1.1 Laboratory reporting trends – Salmonellosis in humans.

1.1.2 A sharp rise in the incidence of human salmonellosis in the UK was observed in the mid 1980s. This was largely due to an increase in *S. Enteritidis* phage type 4 (PT 4) infections, which reached a peak in the early 1990s. The incidence of salmonellosis reached a peak in the early 1990s with over 30,000 cases recorded and remained broadly stable until 1998 when a significant fall was recorded throughout most of the UK which continued for the next two years. Since then the general decline has continued, albeit less sharply.

1.1.3 For the UK as a whole, 13,213 laboratory confirmed cases of human salmonellosis were reported in 2007 (Figure 1), a decrease of 6.2% on the 14,060 confirmed cases recorded in 2006. *S. Enteritidis* and *S. Typhimurium* remained the two most common serotypes isolated from humans, accounting for 66% of all laboratory confirmed reports.

Figure 1



1.1.4 *S. Enteritidis* and *S. Typhimurium* may enter the food chain from sources other than chickens reared for meat. Although *S. Enteritidis* is mainly associated with poultry, *S. Typhimurium* is found in other species of livestock.

1.1.5 Overall, there is little regional variation in salmonellosis in humans in the UK as illustrated below with a more detailed summary of the situation according to region or country.

England and Wales.

1.1.6 In England and Wales in 2007 the number of reported cases of salmonellosis was 12,029, a slight increase on the total for 2006 of 12,822. The proportion of reported cases attributable to *S. Enteritidis* was 54% (6,495 in total). Since 1997 the percentage of cases of salmonellosis attributable to PT4 has fallen from 47% to 14% with 1,691 cases recorded in 2007. As in previous years, *S. Typhimurium* remains the second most commonly isolated serotype in humans with 1,796 reported constituting just under 13% of all cases in England and Wales. The levels of infection due to *S. Enteritidis* and *S. Typhimurium* fell during 2007, whilst the level of most other common serotypes remained relatively stable.

Scotland.

1.1.7 Laboratory reports of salmonellosis increased from 2,015 in 1986 to 3,349 in 1997. Since then the numbers have declined. In 2007, 1,030 laboratory confirmed cases of salmonellosis were reported, compared with 1,035 in 2006. Of the reported cases, 432 were reports of *S. Enteritidis* and 216 were cases of *S. Typhimurium*, constituting 42% and 21% of all cases respectively. However, for the first time since 2002, PT4 was the most common phage type of *S. Enteritidis* in Scotland with an increase of 25% (103 reports in 2007, compared to 83 in 2006). PT1 decreased by 30% (65 reports in 2007 compared to 95 in 2006). *S. Typhimurium* DT 104 decreased by 65% (2 reports compared to 68 in 2006).

Northern Ireland.

1.1.8 In Northern Ireland in 2007, a total of 154 cases of human *Salmonella* were reported, a reduction on the 203 reported in 2006. With the exception of 2004, (when the numbers were influenced by three substantial outbreaks), reported human cases have been generally declining since the peak of 688 laboratory confirmed cases in 1999. Reports of *S. Enteritidis* declined significantly from 92 in 2006 to 47 in 2007. Reports of *S. Typhimurium* also decreased from 46 reports in 2006 to 40 in 2007.

1.1.9 The number of reports of *Salmonella* in humans referred to above in England, Wales, Scotland and Northern Ireland, include cases which were acquired outside the UK.

1.1.10 The top ten laboratory confirmed *Salmonella* serotypes isolated from people in the UK in 2006 and 2005 are given in Annex 1. The most common serotypes from humans in 2007 are given in Table 1.

Table 1

England & Wales		Scotland		Northern Ireland	
Serotype	Rate per 100,000	Serotype	Rate per 100,000	Serotype	Rate per 100,000
S. Enteritidis	12.02	S. Enteritidis	8.48	S. Enteritidis	2.70
<u>of these PT4</u>	<u>3.14</u>	<u>of these PT4</u>	<u>2.02</u>	<u>of these PT4</u>	<u>0.10</u>
S. Typhimurium	2.86	S. Typhimurium	4.24	S. Typhimurium	2.30
<u>of these DT104</u>	<u>0.33</u>	<u>of these DT104</u>	<u>0.43</u>	<u>of these DT104</u>	<u>0.10</u>
S. Virchow	0.74	S. Virchow	0.60	S. Infantis	0.17
S. Newport	0.38	S. Newport	0.33	S. Montevideo	0.17
S. Scharzengrund	0.32	S. Scharzengrund	0.41	*	
S. Java	0.27	S. Java	0.31		
S. Braenderup	0.26	S. Braenderup	0.27		
S. Infantis	0.26	S. Anatum	0.65		
S. Stanley	0.23	S. Hadar	0.35		
S. Kentucky	0.19	Salmonella grp B (monophatic)	0.27		

* S. Arizonae, S. Hadar, S. Kentucky, S. Panama, S. Saint-paul, S. Schwarzengrund, S. Senftenberg, S. Stanley and S. Tennessee were all isolated at a rate of 0.11 per 100,000.

1.2.0 Laboratory reporting trends – *Salmonella* in chickens reared for meat.

1.2.1 In the UK a voluntary industry operated scheme (Assured Chicken Production - ACP) requires its members to operate to specified hygiene standards. About 95% of chicken meat production in the UK is included in ACP.

1.2.2 There is currently no statutory monitoring programme for *Salmonella* in chickens reared for meat in the UK. It is a statutory requirement¹ for all laboratories which isolate *Salmonella* from a flock of chickens reared for meat or its environment to report the finding and supply the isolate to the National Reference Laboratory (NRL) for *Salmonella* – the Veterinary Laboratories Agency in Great Britain or to Agri-Food Biosciences Institute in Northern Ireland. The isolates are serotyped, phage-typed, where appropriate, and tested for antimicrobial sensitivity by the NRL. This information is recorded and analysed. The number of reports received depends on the level and sensitivity of monitoring which is undertaken by the producers. The reports provide useful information on the serovars which are most common in poultry, and indicate trends.

1.2.3 Over the last three years the number of reported incidents of *S. Enteritidis* and *S. Typhimurium* in flocks of chickens reared for meat, or their environment, has been low.

Chickens reared for meat 2007 (routine reporting from laboratories).

1.2.4 In chickens reared for meat there were 7 incidents with *S. Enteritidis*, and 1 incident of *S. Typhimurium* recorded in Great Britain during routine monitoring carried out by the industry and private veterinarians. When *S. Enteritidis* or *S. Typhimurium* is isolated from a flock of chickens reared for meat, advice is given to the operators on control of *Salmonella* including the code of good practice to help limit the introduction of *Salmonella* and control its spread in flocks of chickens reared for meat. These incidents relate mainly to samples taken by the industry when the birds are 3 to 4 weeks of age. In total there were 82 reports of *Salmonella* from chickens reared for meat or their environment. Generally the most common serovars recorded on farms with chickens reared for meat in the UK are *S. Livingstone*, *S. Senftenberg*, and *S. Kedougou*.

1.2.5 The current system of voluntary monitoring and the requirement of laboratories to report positive findings does not give information on the number of holdings or flocks sampled. It is not possible therefore from these figures to establish the prevalence of *Salmonella* in flocks of chickens reared for meat, but the information does give valuable information on the serotypes which are most commonly found in chickens reared for meat, and the trends in these from year to year. In addition *Salmonella* isolates are phage-typed as appropriate, and tested for sensitivity against a panel of 16 antimicrobials in the monitoring programme, which provides information on trends. A better measure of the prevalence was obtained from the survey carried out to set a baseline for *Salmonella* in flock holdings of chickens reared for meat according to Decision (EC) No 2005/636.

Chickens reared for meat survey 2005-2006 (Decision EC 2005/636).

1.2.6 The study was conducted according to the protocol in Decision (EC) No. 2005/636.

¹ Zoonoses Order 1989 or equivalent legislation.

1.2.7 The raw data were forwarded to the Commission for analysis by the European Food Safety Authority (EFSA). An analysis of the UK data was also carried out by the National Reference Laboratory.

Prevalence of *Salmonella* Enteritidis

Salmonella Enteritidis was not isolated from any of the 383 holdings sampled in the UK.

Prevalence of *Salmonella* Typhimurium

Salmonella Typhimurium was isolated from one of the 383 holdings sampled in the UK to give a prevalence of 0.3%. The holding was a conventional broiler farm in the 100,000 plus size category. The phage type was DT104.

Prevalence of other *Salmonella* serovars

Salmonella serovars other than *S. Enteritidis* and *S. Typhimurium* were isolated from 40 of the 383 holdings sampled in the UK to give a prevalence of 10.4%. The *Salmonella* serovars found in the survey are predominately those associated with contamination of feed production and hatchery associated isolates and are presented below in Table 2

Table 2: Prevalence of holdings with chickens reared for meat with each *Salmonella* serovar in the UK

<i>Salmonella</i> serovar	Number of holdings	% of <i>Salmonella</i> serovars (n=43)	% of <i>Salmonella</i> positive holdings ³ (n=41)	% of total holdings (n=383)
Ohio	9	20.9	25.0	2.3
Kedougou	7	16.3	19.4	1.8
Livingstone	5	11.6	13.9	1.3
Senftenberg	5	11.6	13.9	1.3
Orion	4	9.3	11.1	1.0
Mbandaka	3	7.0	8.3	0.8
Idikan	1	2.3	2.8	0.3
London	1	2.3	2.8	0.3
Montevideo	1	2.3	2.8	0.3
Newport	1	2.3	2.8	0.3
Oslo	1	2.3	2.8	0.3
Thompson	1	2.3	2.8	0.3
Typhimurium	1	2.3	2.8	0.3
Virchow	1	2.3	2.8	0.3
4,12:D:-	1	2.3	2.8	0.3
O-Rough: G,S,T	1	2.3	2.8	0.3
Total	43 ¹	100.0 ²		

¹ Two holdings each yielded two different serovars

Isolates of *Salmonella* Virchow from the one positive holding were phage type 2.

² Rounded up to nearest decimal point.

³ This will add up to more than 100% as a holding may have more than one serotype isolated.

1.2.8 When a comparison is made with the serotypes commonly found in human cases of salmonellosis (see Table 1) it is notable that none of the serotypes which are isolated

commonly in routine monitoring of chickens reared for meat or which were isolated on more than one occasion in the survey 2005-2006, appear in the top laboratory confirmed *Salmonella* serotypes isolated from people in the UK in 2007. These serotypes (i.e., those other than *S. Enteritidis* or *S. Typhimurium*) do not appear to be of major public health significance in terms of the number of laboratory confirmed cases of these serotypes reported in people.

1.2.9 This was the first national survey carried out according to this protocol so it is not possible to compare directly with the prevalence in previous years.

Chickens reared for meat 2006 (routine reporting from laboratories).

1.2.10 In chickens reared for meat there were 4 incidents of *S. Enteritidis*, and 2 incidents of *S. Typhimurium* recorded in Great Britain (out of 226 reports in total).

Chickens reared for meat – 2005 (Routine reporting from laboratories).

1.2.11 The number of reported incidents in flocks of chickens reared for meat of *S. Enteritidis* was 3, and 6 of *S. Typhimurium* (out of 369 total reports of *Salmonella* in chickens reared for meat).

1.2.12 Care should be taken when comparing data from one year to another as an increase or decrease in the number of incidents and isolations reported does not necessarily indicate a similar change in prevalence. This is because the total number of samples examined and their distribution is not known

1.3.0 *Salmonella* control programme in chickens reared for meat flocks of *Gallus gallus* in the UK.

1.3.1 A national *Salmonella* control programme will be implemented to comply with Regulation (EC) No 2160/2003 and Regulation (EC) No 646/2007. The national control plan for *Salmonella* in chickens reared for meat is planned to come into effect in January 2009.

1.3.2 All flocks of chickens reared for meat will be included in the national control programme unless exempted in Regulation (EC) No 2160/2003 under Article 1.3, i.e. birds produced for private domestic consumption, or where there is direct supply of small quantities of products to the final consumer or to local retail establishments directly supplying the primary products to the final consumer.

1.3.3 The GB Poultry Register has been set up for disease control purposes, specifically avian influenza, and contains the locations of all flocks of *Gallus gallus* with more than 50 birds. The Poultry Register covers England, Wales and Scotland. There is a separate Poultry Register in Northern Ireland. To date, the Register has been used for avian influenza risk assessment, prevention and control. However, after public consultation, and starting from the 1st August 2008, the use of the Register has been extended to cover the management of other poultry diseases, including other notifiable diseases and zoonoses. The Register provides a large database of holdings with chickens reared for meat.

1.3.4 Operators will be required to implement the sampling programme in the Annex to EC Regulation 646/2007. For convenience the 'Sampling protocol' is repeated in Annex 2. Two pairs of boot sock/swabs will be taken by the operator within the period of three weeks before the birds are due for slaughter. Where possible the samples will be taken in sufficient time for the laboratory results to be known before the birds are transported to the slaughter house. The slaughter age of birds in the UK varies; the majority of conventionally reared birds are slaughtered between 35 days and 42 days although organic birds and enhanced housing

system birds will be slaughtered later. On occasions some birds may be removed from the flock earlier (32 days of age). In the UK it is common practice to remove some of the birds from a flock (a procedure known as “thinning”) and then complete the depopulation of the flock some days later. It is important to know the *Salmonella* status of the flock before the first birds are slaughtered. From the time of sampling a flock, until a laboratory result, including serotype, is obtained may take 2 weeks. In the UK, experience indicates that conventionally reared meat chickens are most likely to test positive for *Salmonella* at two to four weeks of age.² The *Salmonella* status of the flock will therefore be determined by the results of the *Salmonella* test on the sample taken before the first birds are removed from the flock, (even though for the birds in the flock which are slaughtered at an older age, the samples may have been taken slightly outside the 3 week period before the slaughter date). Samples will be submitted to a laboratory authorised by the Competent Authority and which applies quality assurance systems that conform to the requirements of the current EN/ISO standard.

1.3.5 Each year 10% of holdings with more than 5,000 birds will be selected at random and at least one flock on the holding will be sampled by Animal Health, or other authorized agent, acting on behalf of the Competent Authority, who will take an ‘official sample’. In addition, attention will also be given to flocks where there have been previously positive *Salmonella* findings in the samples taken by the operators. Particular attention will be given to holdings where *S. Enteritidis* or *S. Typhimurium* have been isolated from samples.

1.3.6 Sampling to verify the achievement of the target will be as detailed in ‘Sampling protocol’ in the Annex to Commission Regulation (EC) No 646/2007.

1.3.7 When an official sample is taken it may replace the sample required to be taken by the operator.

1.3.8 In accordance with Regulation (EC) No. 646/2007 Annex point 1 (c) the operator of a meat chicken production holding may make an application to the Competent Authority for a derogation not to sample all flocks on the holding. The Competent Authority will assess the application for a derogation against the criteria listed in the Annex -

- (i) an all in/all out system is used;
- (ii) the same management applies to all flocks;
- (iii) feed and water supply is common to all flocks;
- (iv) during one year and at least six crops of flocks, samples were taken for and tested for *Salmonella* spp according to the standard monitoring scheme in all flocks on the holding. Samples of all flocks of at least one crop were taken by the Competent Authority; and no SE or ST was found in any sample from this period of enhanced testing

The Competent Authority may approve the derogation if satisfied.

1.4.0 The geographical area in which the programme will be implemented.

1.4.1 The National Control Programme will be implemented throughout the UK and will cover all flocks of *Gallus gallus* reared for the purpose of producing meat for human consumption. Small flocks that are reared to supply meat for private domestic use, or small quantities of primary product supplied directly by the producer to the final consumer, or to local retail establishments directly supplying the primary product to the final consumer, will be exempt, as permitted in Regulation (EC) No 2160/2003 Article 1.3.

² Personal communication – Dr R H Davies, National Reference Laboratory for *Salmonella*.

1.5.0 The structure and organisation of the relevant Competent Authorities.

1.5.1 The Competent Authority for this National Control Programme in respect of EC Regulation 2160/2003 for the control of *Salmonella* in flocks of chickens reared for meat *Gallus gallus* is:

Department for Environment, Food and Rural Affairs, Nobel House, 17 Smith Square, London, SW1P 3JR.

- In Northern Ireland the operation of the Control Programme is under Department of Agriculture and Rural Development (DARD).
- The programme in Wales operates with the collaboration of the Welsh Assembly.
- The programme in Scotland operates with the collaboration of the Scottish Government.

1.5.2 The Competent Authority in respect of Regulation (EC) No 882/2004 on official controls performed to ensure the verification of compliance with the main body of the feed and food law; is the

- Food Standards Agency, Aviation House, 125 Kingsway, London WC2B 6NH.

(Defra and the equivalent bodies in the devolved administrations are the central competent authorities for the animal health and welfare elements of Regulation (EC) No 882/2004)

1.5.3 Further information on the Food Standards Agency is given in Annex 3.

1.5.4 With reference to the slaughter of flocks of chickens reared for meat the Meat Hygiene Service is an Executive Agency of the Food Standards Agency and is responsible for the protection of public health and animal health and welfare in Great Britain, through proportionate enforcement of legislation in licensed meat premises. Enforcement in licensed premises in Northern Ireland is the responsibility of DARD.

1.5.5 In respect of EC Regulation No 1831/2003 on feed hygiene, the Competent Authorities are the Food Standards Agency and local authorities (Trading Standards Departments and some Environmental Health Services).

1.6.0 Approved laboratories where samples collected within the programme are analysed.

1.6.1 Official samples collected within the National Control Programme will be analysed by the National Reference Laboratory for *Salmonella*, Veterinary Laboratories Agency, Weybridge, or at one of the regional laboratories of the Veterinary Laboratories Agency under its control. For samples in Northern Ireland the National Reference Laboratory is The Agri-Food & Biosciences Institute (AFBI), AFBI Headquarters, Newforge Lane, Belfast BT9 5PX. The AFBI was created on 01 April 2006 as an amalgamation of the Department of Agriculture and Rural Development (DARD) Science Service and the Agricultural Research Institute of Northern Ireland (ARINI). AFBI is a DARD Non-Departmental Public Body (NDPB).

1.6.2 Samples which are taken by the operator from flocks of chickens reared for meat may be sent to a laboratory approved for the testing of *Salmonella* in samples taken in the national control programme. These laboratories are currently inspected and approved by the National Reference Laboratory for *Salmonella*, and undertake regular proficiency testing. All approved laboratories will be required to operate to EN/ISO 17025 by 31 December 2009. The United Kingdom Accreditation Service (UKAS) assesses approved laboratories and provides accreditation.

1.6.3 Laboratories may also be authorised to test samples taken under the Animal By-Products Regulations 2005 which makes provision for the administration and enforcement of Regulation (EC) No 1774/2002 of the European Parliament and of the Council laying down health rules concerning animal by-products not intended for human consumption (OJ No. L273, 10.10.2002, p1.). It requires operators of rendering plants to test for *Salmonella* in samples of rendered animal protein that is intended for use in animal feedingstuffs. The feeding of processed animal protein to farmed animals is also regulated by the TSE Regulations 2002 (as amended) which makes provision for administration and enforcement of certain Community legislation in relation to TSEs. Under the terms of these Regulations only fishmeal tested under the Animal By-Products Regulations is permitted for feeding to poultry.

1.6.4 The laboratories which are authorised by Defra or its agent are required to report findings from the examination of feed materials such as vegetable proteins, and finished feeds, including the number and type of samples which are examined, the number positive, and to supply the isolate for serotyping on request. The results of these analysis are published each year and are available on the VLA website.

1.6.5 The operators of all laboratories are required to report the isolation of *Salmonella* from any sample taken from livestock (including meat chicken flocks of *Gallus gallus*), their environment, or their feed to the Competent Authority and to provide a sub-culture of the isolate on request under the Zoonoses Order 1989, and the Zoonoses Order (Northern Ireland) 1991.

1.6.6 Testing of food of animal origin is undertaken by Food Business Operators complying with the Microbiological criteria regulations, Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs. This is carried out according to the specified reference method (ISO 6759).

1.7.0 Methods used in the examination of the zoonoses or zoonotic agent.

1.7.1 Samples taken by operators and samples taken as official controls are prepared and tested in accordance with the requirements of the Annex in Commission Regulation (EC) No 646/2007 using the method recommended by the Community Reference Laboratory for *Salmonella* in Bilthoven, Netherlands. The method is described in the current version of Annex D of ISO 6579 (2002): 'Detection of *Salmonella* spp. in animal faeces and in samples of the primary production stage'. A semi-solid medium (modified semi-solid Rappaport-Vassiladis medium, MSRV) is used as the single selective enrichment medium. At least one isolate will be serotyped according to the Kaufmann-White scheme. Isolates of *S. Enteritidis* and *S. Typhimurium* will also be phage typed. Sensitivity to a panel of 16 antimicrobials will be determined.

1.7.2 Samples taken under the Animal By-Products Regulations 2005 which make provision for the administration and enforcement of Regulation (EC) No 1774/2002 of the European

Parliament and of the Council laying down health rules concerning animal by-products not intended for human consumption are examined by a method that conforms with—
ISO 6579/2002/BS-EN 12824:2002 (Detection of *Salmonella*) or equivalent,
or
NMKL 71: 1999 or equivalent

1.7.3 The reference method in the microbiological criteria regulation for carcasses and processed meat is ISO 6579:2002.

1.8.0 Official controls.

1.8.1 In accordance with EC Regulation No 646/2007 the Competent Authority will select each year at random at least 10% of holdings with more than 5000 birds. The random selection will take into account the size of holding and geographical distribution. The Competent Authority or its agent will select one flock at random on the holding that is within 3 weeks of going for slaughter. The selected flock will be sampled (two pairs of boot swabs normally) in accordance with the Annex in EC Regulation No 646/2007.

1.8.2 In addition where there has been detection of *S. Enteritidis* or *S. Typhimurium* in operator samples from previous flocks on the holding disease, control advice will be provided including on-farm visits by experts in *Salmonella* control when appropriate. All flocks on the holding will be officially sampled when the next crop of birds is placed.

1.8.3 The use of antimicrobials (as defined in Regulation (EC) No 1177/2006) will be checked when the official sample is taken. If the flock is under antimicrobial medication for animal health or animal welfare reasons the flock will be sampled again after the period of withdrawal for the product given in its Marketing Authorisation. Flock owners are required to keep records of antimicrobial use and to make these records available under the Animals and Fresh Meat (Examination for Residues) Regulation 1988 Statutory Instrument 1988 No 848.

1.8.4 The records of samples taken by the operator will be made available for inspection to the Competent Authority or its agent and will provide details of the identity of the flock sampled, date of sample, slaughter date, type of sample, laboratory carrying out the examination, and the result. The number of flocks on the holding and the number of birds present will be recorded.

1.8.5 The sampling under the Animal By-Products legislation is monitored by the Competent Authorities with inspections carried out using a risk-based approach.

1.8.6 Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs requires poultry abattoirs to undertake microbiological testing for *Salmonella* on 5 samples a week (each sample is 3 neck skins). Establishments producing minced meat, meat preparations and mechanically separated meat must also undertake weekly testing for *Salmonella*. FSA is the Competent Authority and monitors these controls through the enforcement authority which is the Meat Hygiene Service (an executive agency of the Food Standards Agency) and the Local Authority in Great Britain and DARD Veterinary Service in Northern Ireland.

1.8.7 The official monitoring of feed controls is described in the section on the structure of the production of feed below and in Annex 4.

1.9.0 Operator/owner's Obligations.

1.9.1 Operator/owners are required to take samples from flocks of *Gallus gallus* reared for meat for human consumption in accordance with the Annex of EC Regulation No 646/2007. The samples taken shall be labelled to identify the flock sampled, number of birds in the flock, and the date on which it was sampled. The samples shall be taken within three weeks of the first birds being sent for slaughter from the flock and in sufficient time for the results of tests on the samples for *Salmonella* to be available before the birds are slaughtered.

1.9.2 Operator/owners are required to submit a suitable sample in a timely manner to a laboratory which has been authorised by the Competent Authority for the detection of *Salmonella* in a control programme under Commission Regulation (EC) 2160/2003.

1.9.3 The owner shall keep a record of the date when each flock is sampled for *Salmonella*, the identity of the flock sampled, the age of the flock sampled, the date of slaughter, the laboratory which undertook the analysis, and the result of the tests and make these records available to the Competent Authority or its agent.

1.9.4 Samples taken as above shall be sent by express mail or courier within 25 hours of collection to a laboratory authorised by Defra or DARD for the detection of *Salmonella*. At the laboratory samples shall be kept refrigerated until examination unless this examination is begun within 3 hours of arrival of the sample at the laboratory. Examination shall be commenced within 48 hours following receipt.

1.9.5 Reporting of results.

1.9.6 The person in charge of any laboratory which detects *Salmonella* or an isolate believed to be *Salmonella* in any sample from a meat chicken flock or its environment must notify (under the Zoonoses Order 1989, and the Zoonoses Order (Northern Ireland) 1991) the Competent Authority without delay, and supply information on the type of sample, the name and address of the meat chicken flock, the name and address of the owner/operator, and supply the *Salmonella* isolate or sub-culture to the Competent Authority. The laboratory shall at the same time also advise the person/organisation who submitted the sample the results of the test. In practice the reports to the Competent Authority are made to the local regional laboratory of the Veterinary Laboratories Agency in England and Wales, to the Divisional Veterinary Manager or Officer in Scotland and Northern Ireland respectively.

1.9.7 Under Article 9 of Directive (EC) No 2003/99 the Competent Authority will report the results of the tests carried out each year to the Commission according to the information requested in the Annex to EC Regulation No 646/2007.

2.0.0 Official controls at other stages of the food chain.

2.0.1 Under the terms of the EC Feed Hygiene Regulation 1831/2003 feed businesses must be approved or registered with their Local Authority. Approvals/registrations relate to producers of compound feeds, feed materials, feed additives and premixtures. The Regulation also covers transporters and storers of feed, food companies selling co-products for use as feed and pet food manufacturers. Approval requires a prior-inspection visit by a Local Authority to ensure that the premises are working to the required standards (possibly by taking samples), registration involves the placing of premises on a list with follow-up checks of their activities. Livestock farms growing and using or selling crops for feed use are also within the scope of the Regulation, although those which supply small quantities of primary products to local establishments directly supplying the final consumer (e.g. other producers) are not required to be registered or approved.

2.0.2 The Animal By-Products Regulations 2005 requires operators of rendering plants to test samples of rendered animal protein that is intended for use in animal feedingstuffs for *Salmonella*. The feeding of processed animal protein to farmed animals is also covered by the TSE Regulations 2002. Under the terms of these Regulations only fishmeal tested under the Animal By-Products Regulations can be fed to poultry.

2.1.0 Measures taken by the Competent Authorities with regard to animals or products in which zoonoses or zoonotic agents have been detected.

2.1.1 When a meat chicken flock of *Gallus gallus* is suspected of being infected with *Salmonella* Enteritidis or *Salmonella* Typhimurium the flock will be investigated. The flock is suspected of being infected when *S. Enteritidis* or *S. Typhimurium* is isolated from a sample of faeces, or boot swabs, carried out privately or as required by either the operator or the Competent Authority as detailed in the Annex to Regulation (EC) No 646/2007.

Tissue/organs may be taken from birds as part of the investigation of clinical disease by the private veterinarian; these cases will be discussed and additional follow up investigation carried out as appropriate, along with advice on *Salmonella* control. Neck skins are sampled at abattoirs under Regulation (EC) No 1441/2007. The potential for cross contamination make the results from abattoir sampling difficult to interpret in relation to a particular flock. During 2008 consideration will be given to the value of reporting the results of *Salmonella* monitoring at the abattoir to the flock owners where this is possible.

2.1.2 In most cases it will not be possible to carry out an investigation of the birds in the flock from which the *Salmonella* was isolated as the birds will have been slaughtered shortly after the results become available. A notice may be served by the Competent Authority as necessary requiring the operator to clean and disinfect the building from which the infected flock originated. After cleaning and disinfecting the building the operator may be required to take swabs from a number of sites in the building and submit them to an approved laboratory to be tested for *Salmonella* in order to check on the efficiency of the hygiene measures taken. In cases where *S. Enteritidis* or *S. Typhimurium* was isolated the cleaning and disinfection may be checked by the Competent Authority or its agent. The Code of Practice for the control of *Salmonella* in chickens reared for meat on farms will be supplied to the operator. This Code gives advice on biosecurity, *Salmonella* control, prevention, and cleaning and disinfection. During 2008 we intend to review the advice on monitoring in the Code to make it consistent with the requirements of the Annex to Regulation (EC) No 646/2007. The Code of Practice for the prevention of rodent infestations in poultry flocks is also being updated and will be available in 2008.³

2.1.3 If the results of post-cleaning and disinfection monitoring of *Salmonella* are positive for *S. Enteritidis* or *S. Typhimurium*, the next crop (cycle) will be monitored under supervision by the Competent Authority or its agent. If *Salmonella* is isolated in this subsequent crop of birds the holding will be placed under official control; re-stocking of the house will be permitted only if the supervised post-cleaning and disinfection samples from the house are negative, or if still positive, under licence from the Competent Authority.

2.1.4 When a flock is positive for *Salmonella* in the samples taken during the period 3 weeks before slaughter the food business operator for the abattoir where the birds are to be slaughtered will be informed so that arrangements can be made to take measures to reduce the possibility of cross contamination of other batches, for example arranging slaughter to take place at the end of the day, or before a break, etc.

³ http://www.defra.gov.uk/animalh/diseases/zoonoses/zoonoses_reports/salrodent.pdf

2.1.5 For the purposes of establishing the progress towards the target if *S. Enteritidis* or *S. Typhimurium* is isolated from either an operator sample or an official sample the flock is classed as positive. A flock positive for a specific serotype will be recorded only once for that serotype.

2.1.6 Isolates of *Salmonella* Enteritidis and *Salmonella* Typhimurium will be examined to determine if they are vaccine strains according to the manufacturer's specification. If vaccine strains are confirmed in samples the flock will not be classed as positive for the purposes of establishing the progress towards the target. Although vaccines against *Salmonella* are not currently used in chickens reared for meat, this practice may change in the future if suitable vaccines are developed.

2.1.7 Official sampling will be carried out under the control of the Competent Authority in all replacement flocks where the previous flock in a building was positive for *S. Enteritidis* or *S. Typhimurium*. This sampling will take place according to the procedure in the Annex to Regulation (EC) No 464/2007.

2.1.8 Operators with a flock which is positive for *S. Enteritidis* or *S. Typhimurium* will be contacted by the Competent Authority and invited to contact their veterinary adviser for advice on how to reduce or eliminate the *Salmonella*. Advice on the control of *Salmonella* in chickens reared for meat will be available from government experts on *Salmonella* control based in the Veterinary Laboratories Agency, Animal Health, and DARD. Advice may include recommendations on management, cleaning and disinfection, pest control, biosecurity, monitoring, and the potential use of other aids in the control of *Salmonella*. The Code of Practice for the control of *Salmonella* on farms rearing chickens for meat will be supplied to the producer to help educate, and to help the producer implement measures to reduce *Salmonella* in the flocks⁴.

2.2.0 Relevant national legislation.

2.2.1 The following legislation is administered by Defra or the Competent Authorities in the devolved administrations where equivalent legislation is in place.

- Zoonoses Order 1989 and in Northern Ireland, the Zoonoses Order (Northern Ireland) 1991– requires the person responsible for all laboratories to report the isolation of a *Salmonella* and to provide a sub-culture on request.
- The Animal Health Act, 1981 designates *Salmonella* as a disease of poultry and provides powers for the slaughter of flocks which are confirmed to be infected. In Northern Ireland the Disease of Animals (Northern Ireland) Order 1981 designates *Salmonella* as a disease of poultry and provides similar powers as above.
- The Animal By-Products Regulations 2005 – covers the disposal of animal by-products for the administration and enforcement of Regulation (EC) No 1774/2002 of the European Parliament and of the Council laying down health rules concerning animal by-products not intended for human consumption.

2.2.2 The following legislation is administered by the Food Standards Agency:

⁴ http://www.defra.gov.uk/animalh/diseases/zoonoses/zoonoses_reports/salmonellainchick.pdf

- Regulation EC No. 852/2004 requires food business operators to 'ensure that primary products are protected against contamination' ['contamination' means the presence or introduction of a hazard].
- Food Safety Act 1990

http://www.opsi.gov.uk/acts/acts1990/Ukpga_19900016_en_1.htm

2.2.3 Further legislation will be introduced or current legislation amended during 2008 to provide a legislative basis for the National Control Programme for *Salmonella* in chickens reared for meat for human consumption.

2.2.4 A full consultation on the proposed new legislation will take place in 2008 including an Impact Assessment allowing 12 weeks for comment from interested parties as required in standard UK procedures for introducing new legislation.

2.3.0 Financial assistance provided to food and feed businesses in the context of the National Control Programme.

2.3.1 In flocks of *Gallus gallus* being reared for meat for human consumption no financial assistance is provided in the context of the control programme.

2.3.2 No charge is made for the investigations carried out by the Competent Authority when a flock is suspected of being infected with *S. Enteritidis* or *S. Typhimurium*, and no charge is made for the expert and other advice given by the Competent Authorities on the control of *Salmonella*.

2.3.3 The UK is considering application to the Commission for co-financing for certain aspects of the control programme within the terms of Council Decision 90/424 of 26 June 1990 on expenditure in the veterinary field.

2.4.0 Food and Feed businesses covered by the programme.

2.4.1 The programme for the control of *Salmonella* in chickens reared for meat is part of the controls along the whole of the food chain.

2.5.0 The structure of the production of the given species and products thereof.

2.5.1 The structure of the meat chicken flocks in the UK is given in Annex 5.

2.6.0 The structure of the production of feed.

2.6.0.1 A number of Competent Authorities are involved in feed law policy and its enforcement. The Food Standards Agency deals with the composition and marketing of animal feeds (including undesirable substances, additives and labelling); Defra (Veterinary Medicines Directorate VMD) which deals with zootechnical and medicated feeds; and Defra Animal Health and veterinary group, or its equivalent in the devolved administrations, covers processed animal proteins and *Salmonella*.

2.6.0.2 Many low moisture feeds, in particular those derived from cereals, oilseeds and sugar processing industries are widely used in the manufacture of compound feeds and blends. Soya bean and rapeseed meals are major sources of protein. The Animal By-Products

Regulations 2005 requires operators of rendering plants to take samples of rendered animal protein (fishmeal) that is intended for use in animal feedingstuffs. The samples must then be tested at an approved laboratory for the presence of *Salmonella*.

2.6.0.3 Only a few feed compounders operate on a national scale manufacturing and distributing compound livestock feeds on a nation-wide basis. Other feed compounders operate on a regional basis. Some feed compounders may be farmer controlled or co-operatives. A number of companies manufacture feeds as part of an integrated process of poultry and egg production.

2.6.1 The structure of the production of food.

2.6.2 At the end of the growing period the birds are slaughtered and may go for human consumption. In accordance with Regulation 853/2004, chicken meat for human consumption must be slaughtered in approved slaughterhouses. There are 127 of these in Great Britain and 7 in Northern Ireland. The enforcement authority in these plants is the Meat Hygiene Service (an executive agency of the Food Standards Agency) in Great Britain and DARD Veterinary Service in Northern Ireland. The industry guide entitled "A guide to the food hygiene and other regulations for the meat industry" sets out the detailed requirements that apply to the slaughter and processing of meat chickens in such meat plants.

2.6.3 Producers who rear and slaughter on the farm, and who subsequently sell the meat locally or direct to the consumer, are exempt from the detailed requirements of Regulation 853/2004 and thus do not have to slaughter the birds in approved slaughterhouses. The rules that apply to these producers are also set out in the industry guide "A guide to the food hygiene and other regulations for the meat industry". The enforcement authority on these exempt premises is the local food authority. However, the number of producers of meat chicken flocks of *Gallus gallus* who slaughter on farms is thought to be very low.

2.6.4 Chicken meat sold at retail level within the UK is required to be marked with a code identifying the establishment (production site), and the country of origin. This mark can be applied direct to the product, the wrapping, packaging or be printed on a label affixed to the product, the wrapping or the packaging. This is in accordance with EU Regulation No. 853/2004, Annex II, Section I (Identification Marking)

2.6.5 Further information on the production of chicken meat in the UK is available at: <http://www.defra.gov.uk/foodrin/poultry/statistics/index.htm>

2.7.0 Relevant guides for good animal husbandry practices or other guidelines.

2.7.1 A number of voluntary guides have been produced in collaboration with representatives of the industry on the control of *Salmonella* in poultry production. Relevant ones are listed in Annex 6, and some are also available on the website at; <http://www.defra.gov.uk/animalh/diseases/zoonoses/salmonella-cop.htm>
Hard copies are available on request.

2.8.0 Routine veterinary supervision of farms.

2.8.1 The owner is responsible for the health and welfare of the poultry on the holding, and for ensuring that a veterinarian is consulted on disease and welfare issues as appropriate. The Competent Authority carries out inspections on farms for animal welfare reasons, to take samples for residues, and to check medicine records.

2.9.0 Registration of farms.

2.9.1 All poultry breeding flocks of more than 250 birds are registered (Control of Salmonella in Poultry Order 2007). The register is maintained at the local level by the Competent Authority or its agent (Animal Health in Great Britain, DARD in Northern Ireland).

2.9.2 A GB Poultry Register and an equivalent register in Northern Ireland detail the locations and numbers of all poultry for the purposes of control of avian influenza. The information in the Register may be used for *Salmonella* control purposes under Regulation (EC) 2160/2003.

3.0.0 Record-keeping at farms.

3.0.1 All meat chicken flock operators are required to keep records of medicine usage, including vaccines, which must be available for inspection.

3.0.2 Records relating to movement of flocks onto and off the holding must be kept.

3.0.3 Records giving details of sampling for *Salmonella* and results will be kept either at the holding or be readily available.

3.1.0 Documents to accompany animals when dispatched.

3.1.1 Operators wishing to export more than 20 birds or hatching eggs to another EU Member State (or certain third countries) must comply with EU Directive 90/539/EC and ensure that the consignment is accompanied by a completed and signed Intra-trade Animal Health Certificate (ITAHC) for poultry breeding and production. This can be obtained from a local Animal Health Divisional Office and must be completed and signed by the Official Veterinarian as well as the operator to confirm compliance with the relevant articles of Directive.

3.1.2 The ITAHC will also require the reference number of the operator's poultry health certificate.

3.1.3 The ITAHC will be amended to include the results of the last test for *Salmonella* as required in Commission Regulation (EC) 2160/2003 Article 9.1 prior to any dispatching of the live animals, or hatching eggs, from the food business of origin. The date and the result of testing shall be included in the relevant health certificates provided for in Community legislation as required by Decision (EC) No 2007/594

3.2.0 Other relevant measures to ensure the traceability of animals.

3.2.1 The Control of Salmonella in Poultry Order 2007 (CSPO)⁵, and the equivalent legislation implemented in the devolved administrations in Wales, Scotland and Northern Ireland require the operators of hatcheries and the keepers of breeding flocks to keep records of poultry or hatching eggs entering or leaving the premises. The records must contain information on the number, date, and origin or destination. These records must be retained for one year and be available to the Competent Authority for inspection. The

⁵ CSPO was brought into force to support the introduction of *Salmonella* National Control Programmes required by Regulation 2160/2003 for breeding and laying flocks (revoking The Poultry Breeding Flocks and Hatcheries Order 2007).

Diseases of Poultry Order 2003 (and equivalent legislation) extends this requirement to every person who is engaged in the transport or marketing of poultry.

3.2.2 All official veterinary health certificates issued for the export of poultry and hatching eggs are recorded on either the Centaur system or the Trade Control and Expert System (TRACES). Both of these systems allow tracking of exports of live animals and hatching eggs accompanied by veterinary health certification. Centaur creates Export Health Certificates for exports to third countries while TRACES generates ITAHCs issued for intra-Community movements. TRACES is an internet-based service which is owned and maintained by the Commission. It is possible for traders (economic operators) to apply for both Centaur EHCs and TRACES ITAHCs on-line or using paper application forms. Operators wishing to export birds to EU Member States can register with TRACES via Defra's website or their local Animal Health Office.

3.3.0 Approved plans from Food Business Operators.

3.3.1 Approval has been granted to plans submitted by the following Food Business Operators.

Name of plan
Food Business Operator
Date of approval

3.3.2 The Commission will be advised of any food business operator plans which have been approved by the Competent Authority.

Annex 1

Top laboratory confirmed *Salmonella* serotypes isolated from people, UK 2006

England & Wales		Scotland		Northern Ireland	
Serotype	Rate per 100,000	Serotype	Rate per 100,000	Serotype	Rate per 100,000
S. Enteritidis	12.98	S. Enteritidis	9.64	S. Enteritidis	5.34
<u>of these PT4</u>	<u>3.59</u>	<u>of these PT4</u>	<u>1.63</u>	<u>of these PT4</u>	<u>0.75</u>
S. Typhimurium	2.7	S. Typhimurium	4.02	S. Typhimurium	2.61
<u>of these DT104</u>	<u>0.52</u>	<u>of these DT104</u>	<u>1.35</u>	<u>of these DT104</u>	<u>0.64</u>
S. Virchow	0.73	S. Virchow	0.55	S. Virchow	0.29
S. Newport	0.42	S. Newport	0.44	S. Schwarzengrund	0.29
S. Aijobo	0.28	S. Montevideo	0.31	S. Agona	0.29
S. Infantis	0.27	S. Infantis	0.29	S. Montevideo	0.23
S. Stanley	0.27	S. Hadar	0.27	**	
S. Montevideo	0.26	*			
S. Braenderup	0.19				
S. Hadar	0.17				

* S. Java, S. Oranienburg, and S. Stanley were all isolated at a rate of 0.26 per 100,000 population

** S. Infantis, S. Dublin, S. Java, S. Manhattan, S. Newport, S. Stanley and S. Weltevereden were all isolated at a rate of 0.12 per 100,000 population

The top ten laboratory confirmed *Salmonella* serotypes isolated from people, UK 2005

England & Wales		Scotland		Northern Ireland	
Serotype	Rate per 100,000	Serotype	Rate per 100,000	Serotype	Rate per 100,000
S. Enteritidis	12.5	S. Enteritidis	10.30	S. Enteritidis	4.85
<u>of these PT4</u>	<u>3.33</u>	<u>of these PT4</u>	<u>2.26</u>	<u>of these PT4</u>	<u>0.76</u>
S. Typhimurium	2.7	S. Typhimurium	4.04	S. Typhimurium	1.93
<u>of these DT104</u>	<u>0.7</u>	<u>of these DT104</u>	<u>1.69</u>	<u>of these DT104</u>	<u>0.23</u>
S. Virchow	0.62	S. Goldcoast	0.81	S. Virchow	0.35
S. Newport	0.33	S. Virchow	0.77	S. Goldcoast	0.23
S. Stanley	0.29	S. Newport	0.43	S. Saint-paul	0.23
S. Hadar	0.29	S. Saint-paul	0.41	S. Kentucky	0.18
S. Infantis	0.22	S. Hadar	0.35	S. Kottbus	0.18
S. Goldcoast	0.22	S. Stanley	0.30	S. Meunchen	0.18
S. Kentucky	0.19	S. Corvallis	0.28		
S. Agona	0.14	S. Agona	0.26		

Annex 2

Sampling protocol.

For each flock*

At least two pairs of boot/sock swabs shall be taken. For free range flocks of chickens reared for meat, samples shall only be collected in the area inside the house. All boot/sock swabs must be pooled into one sample.

In flocks with less than 100 chickens reared for meat, where it is not possible to use boot/sock swabs as access to the houses is not possible, they may be replaced by hand drag swabs, where the boot swabs or socks are worn over gloved hands and rubbed over surfaces contaminated with fresh faeces, or if not feasible, by other sampling techniques for faeces fit for the intended purpose.

Before using the boot/sock swabs, their surface shall be moistened with maximum recovery diluents (MRD:0,8 % sodium chloride, 0,1 % peptone in sterile deionised water), or sterile water or any other diluent approved by the national reference laboratory referred to in Article 11 of Regulation (EC) No 2160/2003.** The use of farm water containing antimicrobials or additional disinfectants shall be prohibited. The recommended way to moisten boot swabs shall be to pour the liquid inside before putting them on. Alternatively, boot swabs or socks may be autoclaved with diluents within autoclave bags or jars before use. Diluents may also be applied after boots are put on using a spray or wash bottle.

It shall be ensured that all sections in a house are represented in the sampling in a proportionate way and that at least 100 steps are taken with each pair of boot swabs. Each pair should cover about 50 % of the area of the house.

On completion of sampling the boot/sock swabs shall be carefully removed so as not to dislodge adherent material. Boot swabs may be inverted to retain material. They shall be placed in a bag or pot and labelled to identify the flock sampled, and the date the samples were taken.

* 'flock' means all poultry of the same health status kept on the same premises or in the same enclosure and constituting a single epidemiological unit; in the case of housed poultry, this includes all birds sharing the same airspace.

** Mains water is suitable

Annex 3

The Food Standards Agency.

The Food Standards Agency is an independent Government department set up by an Act of Parliament in 2000 to protect the public's health and consumer interests in relation to food. The Agency is led by a Board that has been appointed to act in the public interest and not to represent particular sectors. Board members have a wide range of relevant skills and experience. Their UK headquarters are in London, but the Agency also has national offices in Scotland, Wales and Northern Ireland.

The Food Standards Agency is accountable to Parliament through Health Ministers, and to the devolved administrations in Scotland, Wales and Northern Ireland for its activities within their areas.

Annex 4

Authorities involved in Feed Law and its Enforcement.

	Policy, Regulation and Implementation of Legislation	Enforcement Legislation
Composition and Marketing of Animal Feeds (undesirable substances, additives, labelling etc)	Food Standards Agency	GB: Local Authorities NI: (Northern Ireland): Department of Agriculture and Rural Development (DARD)
Zootechnical and Medicated Feeds	Defra (Veterinary) Medicines Directorate (VMD) DARD (Animal Health and Welfare Policy Division)	GB: Animal Medicines Inspectorate NI: DARD
Animal Disease related Legislation (BSE, Processed Animal Proteins, <i>Salmonella</i>)	Defra (Animal Health and Veterinary Group) DARD (Animal Health and Welfare Policy Division)	GB: Checks carried out by Animal Health (Defra) Prosecution: Local Authorities NI: DARD
Pesticide Residues	Defra (Pesticides Safety Directorate – PSD) Agri-environmental Policy Division	GB: Pesticides Safety Directorate and Local Authorities NI: DARD

Annex 5

Flocks and Holdings of meat chicken flocks producing meat for human consumption in UK⁶.

Region	5000-9999	10000-49999	50000-99999	≥100000	Totals
England	41	234	200	337	812
Wales	22	50	17	26	115
Scotland	2	25	16	30	73
Northern Ireland	24	195	52	24	295
Totals for UK	89	504	285	417	1295

UK Census data for 2006 (excluding Wales) indicated 110,672,000 chickens reared for meat were present.

In data from the GB Poultry Register on 30 January 2007 there were a total of 2,196 premises which kept a total of 122,255,150 chickens reared for meat: there were 989 premises which kept 5,000 or less chickens reared for meat, and 1,207 premises which kept more than 5,000 chickens reared for meat.

⁶ Census data 2004

Annex 6

Codes of practice for the control of *Salmonella*.

1. Code of Practice For The Prevention and Control of <i>Salmonella</i> - In Commercial Egg Laying Flocks. Ref No PB 2205
2. Codes of Practice For The Control of <i>Salmonella</i> – For The UK Fish Meal Industry Ref No PB 2203
3. Code of Practice For The Control of <i>Salmonella</i> – In The Production of Final Feed For Livestock In Premises Producing Less Than 10,000 tonnes Per Annum. Ref No 2201
4. Code of Practice For The Control of <i>Salmonella</i> – In the Production of Final Feed for Livestock In Premises Producing Over 10,000 Tonnes Per Annum. Ref No 2200
5. Code of Practice For the Prevention and Control of <i>Salmonella</i> – In Chickens Reared For Meat on farm Ref No PB7323 http://www.defra.gov.uk/animalh/diseases/zoonoses/zoonoses_reports/salmonellainchick.pdf
6. Code of Practice For The Control of <i>Salmonella</i> – During the Storage, Handling and Transport of Raw Materials Intended For Incorporation Into, or Direct Use As, Animal Feedingstuff. Ref No 2202
7. Code of Practice For The Control of <i>Salmonella</i> - In Animal By-products Rendering Industry. Ref No 2199
8. Code of Practice For The Prevention of Rodent Infestation In Poultry Flocks. The Control of <i>Salmonella</i> . Ref No 2630 http://www.defra.gov.uk/animalh/diseases/zoonoses/zoonoses_reports/salrodent.pdf
9. Code of Practice For The Prevention and Control of <i>Salmonella</i> - In Breeding Flocks and Hatcheries. Ref No PB 1564
10. Code of Practice For The Control of <i>Salmonella</i> - In The Production Of Final Feed For Livestock. Ref No 2200 & 2201
11. Egg Quality Guide Ref No PB 4821
12. Code of Practice The Handling and storage of eggs from farm to retail sale Ref No. PB2818