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# The UK National Control Programme for *Salmonella* in Turkeys

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## UK NATIONAL CONTROL PROGRAMME FOR *SALMONELLA* IN TURKEYS<sup>1</sup>

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<sup>1</sup> Turkeys: includes both breeding and fattening turkeys

## National Control Programme UK – *Salmonella* in turkeys

### Aim of the programme

To reduce or maintain the low prevalence of *Salmonellas* of public health significance in fattening and adult breeding turkey flocks on holdings in the UK, at least to the target levels set out in Regulation (EC) No 584/2008 which is a maximum percentage of fattening and adult breeding turkey flocks<sup>2</sup> remaining positive for *Salmonella* Enteritidis and *Salmonella* Typhimurium to 1% or less by 31 December 2012.

### 1.0 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 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.

1.03 A European Union-wide baseline survey was carried out to determine the prevalence of *Salmonella* in commercial turkey holdings with at least 250 birds for breeding turkeys and with at least 500 birds for fattening turkeys. The reports for the survey which took place between October 2006 and September 2007 are available on the EFSA website at: [http://www.efsa.europa.eu/cs/BlobServer/Report/zoon\\_report\\_ej134\\_finturkeys\\_en.0.pdf](http://www.efsa.europa.eu/cs/BlobServer/Report/zoon_report_ej134_finturkeys_en.0.pdf) and [http://www.efsa.europa.eu/EFSA/efsa\\_locale-1178620753812\\_1211902151685.htm](http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1211902151685.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>

1.04 The success of voluntary industry control programmes in turkey breeding flocks means that the day old poults to be reared for meat which are placed on farms should be free of *S. Enteritidis* and levels of *S. Typhimurium* are likely to be very low.

### 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

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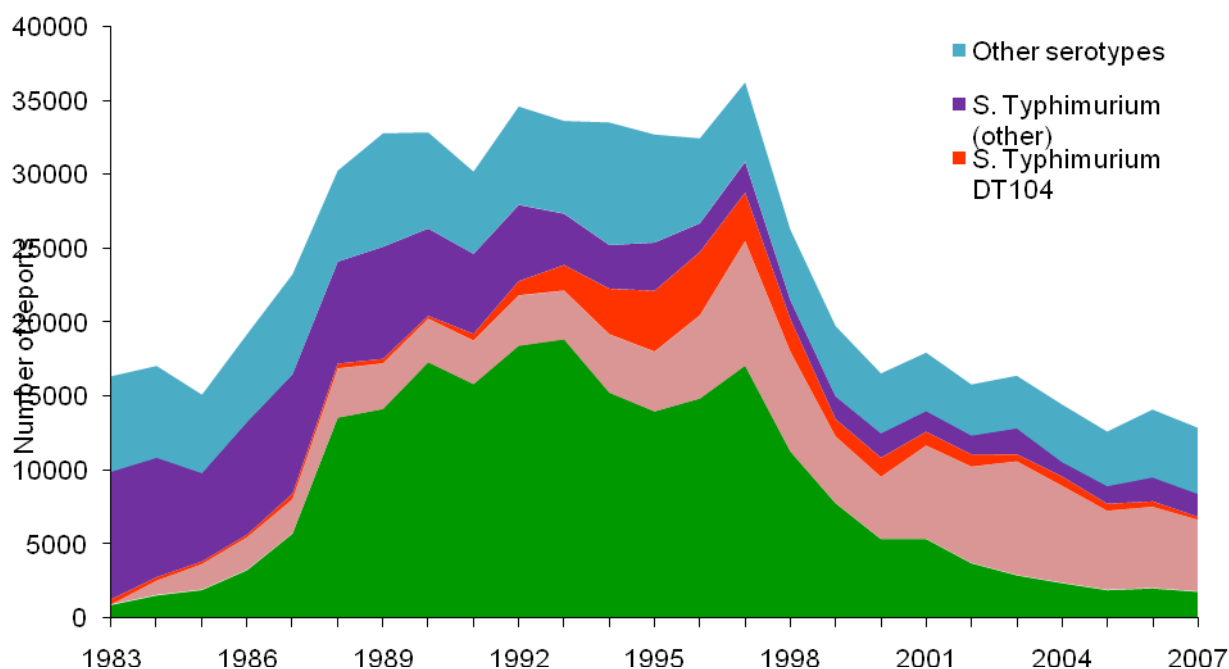
<sup>2</sup> Flock means all poultry of the same health status kept on the same premises or in the same enclosure and constituting a single epidemiological unit; in the case of housed poultry, this includes all birds sharing the same airspace. In the case of extensive production birds sharing the same fenced range area would normally be considered to be a single flock.

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**

**Laboratory reports of *Salmonella* in people UK, 1983 -2007**



1.1.4 *S. Enteritidis* and *S. Typhimurium* may enter the food chain from sources other than turkey meat. Although *S. Enteritidis* is mainly associated with chickens and ducks, *S. Typhimurium* is found in other species of livestock, including turkeys. Current levels of *S. Typhimurium* in major commercial turkey breeding and production are thought to be very low.

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 2007, the annual total of *Salmonella* cases reported for England and Wales was 12,029, of which 54% (6,462) were due to *S. Enteritidis*. In comparison to 2006, this is an overall decrease in the number of cases and a reduction in the number of cases due to *S. Enteritidis* (12,822 cases of which 56% were due to *S. Enteritidis* in 2006). There were 1,691 PT4 cases, accounting for 14% of all recorded cases, compared to 2,069 recorded in 2006. *S. Typhimurium* remains the second most commonly isolated serotype accounting for 13% of all laboratory confirmed cases of salmonellosis recorded in 2007 in England and Wales.

## **Scotland.**

1.1.7 In Scotland in 2007, a total of 1,030 cases of *Salmonella* infection were reported, compared with 1,129 in 2006. Of the reported cases, 432 were reports of *S. Enteritidis* and 216 were *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% (22 reports compared to 68 in 2006).

## **Northern Ireland.**

1.1.8 In Northern Ireland in 2007, a total of 154 cases of *Salmonella* infection in humans 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
<b>S. Enteritidis</b>	12.02	<b>S. Enteritidis</b>	8.48	<b>S. Enteritidis</b>	2.70
of these PT4	3.14	of these PT4	2.02	of these PT4	0.17
<b>S. Typhimurium</b>	2.86	<b>S. Typhimurium</b>	4.24	<b>S. Typhimurium</b>	2.30
of these DT104	0.33	of these DT104	0.43	of these DT104	0.0
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. Schwarzengrund	0.32	S. Schwarzengrund	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	<i>Salmonella</i> grp B (monophasic)	0.27		

\* *S. Arizonae*, *S. Hadar*, *S. Kentucky*, *S. Panama*, *S. Saintpaul*, *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 turkeys**

1.2.1 In 2007 there were 112 reported incidents<sup>3</sup> of *Salmonella* in turkeys in the UK, detected as a result of voluntary monitoring carried out by the industry and private

<sup>3</sup> Incident refers to the first isolation and all subsequent isolations of the same serotype or serotype and phage/definitive type combination of a particular type of *Salmonella* isolated from an animal or a group of animals on a single premises within a defined time period (usually 30 days)

veterinarians. The most commonly reported serotypes were *S. Derby* (37 incidents) and *S. Kottbus* (24 incidents) which comprised 33.0% and 21.4% of total reports respectively. There were 12 incidents of *S. Typhimurium* but no *S. Enteritidis* reported from turkeys during the year. When *S. Enteritidis* or *S. Typhimurium* is isolated from a turkey flock, advice is given to the operators on control of *Salmonella*.

1.2.2 There is currently no statutory monitoring programme for *Salmonella* in turkey flocks in the UK and all samples are from voluntary monitoring. It is a statutory requirement<sup>4</sup> for all laboratories which isolate *Salmonella* from a flock of turkeys or its environment to report positive findings and supply the isolate to the National Reference Laboratory (NRL) for *Salmonella* – the Veterinary Laboratories Agency in Great Britain or to Agri-Food and Biosciences Institute in Northern Ireland. The isolates are serotyped, phage-typed, where appropriate, and tested for sensitivity against a panel of 16 antimicrobials in the monitoring programme by the NRL, which provides information on trends. 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 Since monitoring for *Salmonella* in turkeys is done on a voluntary basis, it is not possible therefore from these figures to establish the prevalence of *Salmonella* in flocks of turkeys, but the data does give valuable information on the serotypes which are most commonly found in turkeys, and the trends in these from year to year. A better measure of the prevalence was obtained from the survey carried out to set a baseline for *Salmonella* in turkeys according to Commission Decision (EC) No 2006/662/EC.

#### **Turkey flocks baseline survey 2006-2007 (Decision EC 2006/662 and 2007/208/EC<sup>5</sup>).**

1.2.4 The objective of this survey was to obtain comparable data for all Member States through harmonized sampling schemes. According to Regulation EC No 2160/2003 on the control of *Salmonella* spp. and other zoonotic agents, which aims to reduce the incidence of food-borne disease in the EU, results of this survey were to inform the setting of the Community target for reduction of the prevalence of the infection in turkey flocks. The study was conducted according to the protocol in Decision (EC) No. 2006/662/EEC and 2007/208/EC.

1.2.5 From October 2006 to September 2007, the baseline study on the prevalence of *Salmonella* in Turkey Flocks in the EU was carried out. In the UK, 317 fattening turkey holdings and 116 breeding turkey flocks on 29 breeder holdings were sampled. 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 at the National Reference Laboratory. EFSA published a report in June 2008 on *Salmonella* levels detected on commercial turkey farms across the EU in the survey. *Salmonella* was estimated, on average, to be present in almost one third of the turkey flocks sampled that are reared for human consumption (30.7%) and in 13.6% of breeding turkey flocks in the EU. The flock level *Salmonella* prevalence for the UK was slightly higher than the EU average in fattening

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<sup>4</sup> Zoonoses Order 1989 or equivalent legislation.

<sup>5</sup> Commission Decision of 29 September 2006 concerning a financial contribution from the Community towards a baseline survey on the prevalence of *Salmonella* in turkeys to be carried out in the Member States. OJ L 272,

3.10.2006, p. 22. Commission Decision of 30 March 2007 concerning a financial contribution from the Community towards a baseline survey on the prevalence of *Salmonella* in turkeys to be carried out in Bulgaria and Romania. OJ L 92, 3.4.2007, p. 18.

turkey flocks (32.2%) but was the 3rd lowest average (4.4%) prevalence in breeding turkey flocks. Amongst the full range of *Salmonella* types, *S. Enteritidis* and *S. Typhimurium* were detected in 3.8% of fattening turkey flocks in EU (compared to 4.6% (ST only) in the UK) and in 1.7% of breeding flocks (compared to 0.5% in the UK).

Prevalence of *Salmonella* Enteritidis:

No *Salmonella* Enteritidis was isolated from any of the 317 fattening turkey holdings sampled in the UK. *Salmonella* Enteritidis was also not isolated from any of the 116 flocks on the 29 breeding turkey holdings sampled in the UK.

Prevalence of *Salmonella* Typhimurium:

*Salmonella* Typhimurium was isolated from 16 of the 317 fattening turkey holdings sampled in the UK. *Salmonella* Typhimurium was isolated from one of the 116 breeding turkey flocks sampled in the UK. This was phage type DT12 found in only one of the 5 pairs of boot swab samples and not detected at all during an intensive follow-up visit to the farm.

Prevalence of other *Salmonella* serovars:

*Salmonella* serovars other than Enteritidis and Typhimurium were isolated from 100 of the 317 holdings sampled in the UK and from four of the 29 breeding turkey holdings sampled in the UK (involving eight flocks). The *Salmonella* serovars found in the survey are predominately those associated with contamination of feed production and breeding-flock and hatchery associated strains and are presented below in Table 2 and 3.

**Table 2: Prevalence of fattening turkey holdings with each *Salmonella* serovar in the UK**

<i>Salmonella</i> serovar	Number of holdings	% of <i>Salmonella</i> serovars (n=130)	% of <i>Salmonella</i> positive holdings (n=113)	% of total holdings (n=317)	Number of samples
<i>Kottbus</i>	63	48.4	55.7	19.9	202 <sup>3</sup>
<i>Typhimurium</i> <sup>1</sup>	16	12.3	14.2	5.0	55
<i>Derby</i>	13	10.0	11.5	4.1	43
<i>Kedougou</i>	11	8.5	9.7	3.5	39
<i>Indiana</i>	10	7.7	8.8	3.1	25
<i>Newport</i>	4	3.1	3.5	1.3	123
<i>13,23:l:-</i>	4	3.1	3.5	1.3	5
<i>Senftenberg</i>	3	2.3	2.6	0.9	6
<i>Agama</i>	2	1.5	1.8	0.6	4
<i>Saintpaul</i>	2	1.5	1.8	0.6	8
<i>Anatum</i>	1	0.8	0.9	0.3	1
<i>Stourbridge</i>	1	0.8	0.9	0.3	2
<b>Total</b>	<b>130<sup>2</sup></b>	<b>100.0</b>			<b>402</b>

<sup>1</sup>*Salmonella* serovar of public health significance

<sup>2</sup>Two holdings each yielded 3 different serovars and 13 holdings each yielded two different serovars.

<sup>3</sup>Two different serovars were isolated from one sample.



**Table 3: Prevalence of breeding turkey holdings with each *Salmonella* serovar in the UK**

<i>Salmonella</i> serovar	Number of holdings	% of <i>Salmonella</i> positive holdings (n=5)	% of total holdings (n=29)	Number of flocks	Number of samples
<i>Kottbus</i>	2	40.0	6.9	4	11
<i>Typhimurium</i> <sup>1</sup>	1	20.0	3.4	1	1
<i>Derby</i>	1	20.0	3.4	2	6
<i>Heidelberg</i>	1	20.0	3.4	2	6
<b>Total</b>	<b>5</b>	<b>100.0</b>	<b>17.2</b>	<b>9</b>	<b>24</b>

<sup>1</sup>*Salmonella* serovar of public health significance

1.2.6 When a comparison is made with the serotypes commonly found in human cases of salmonellosis (see Table 1) it is notable that besides *S. Typhimurium*, none of the other serotypes which are isolated commonly in routine monitoring of turkeys or which were isolated on more than one occasion in the survey 2006-2007, appear in the top laboratory confirmed *Salmonella* serotypes isolated from people in the UK in 2007. These serotypes (i.e., those other than *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.

1.2.7 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.

#### **Turkeys 2006 (routine reporting from laboratories).**

1.2.8 There were no incidents of *S. Enteritidis*, and 37 incidents of *S. Typhimurium* recorded in the UK (out of 171 reports in total) in 2006.

#### **Turkeys – 2005 (Routine reporting from laboratories).**

1.2.9 There were no incidents of *S. Enteritidis*, and 24 incidents of *S. Typhimurium* recorded in the UK (out of 279 reports in total) in 2005.

1.2.10 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 fattening and breeding turkey flocks 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 584/2008. The National Control Programme for *Salmonella* in fattening and breeding turkeys is planned to come into effect in January 2010.

1.3.2 All flocks of 250 or more breeding turkeys and all fattening turkeys 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 turkeys 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 1<sup>st</sup> 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 fattening and breeding turkeys.

1.3.4 Operators will be required to implement the sampling programme in the Annex to Regulation (EC) 584/2008 and Regulation (EC) 1003/2005. For convenience the 'Sampling protocol' is repeated in Annex 2.

For **fattening turkeys** at least two pairs of boot sock/swabs, or one pair of boot sock/swabs and a dust sample 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. Turkeys are generally slaughtered at 24 weeks, however all year round production (AYR) systems may slaughter female turkeys at 20 weeks of age or earlier. In the UK, some of the birds can be removed from a flock (a procedure known as "thinning") and then the depopulation of the flock is completed 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 turkeys are most likely to test positive for *Salmonella* at two to four weeks of age.<sup>6</sup> Where more than one batch of birds are going for slaughter with more than 6 weeks between them, a second sample may be required.

For **breeding turkeys**, samples for the detection of *Salmonella* will be taken from rearing turkey breeding flocks at day-old, at four weeks of age and two weeks before moving to the laying phase or laying unit. In adult breeding flocks, samples shall be taken at least every third week during the laying period at the holding or at the hatchery. The samples in adult breeding flocks shall be taken in accordance with the provisions laid down in point 2.2. of the Annex to Regulation (EC) No 1003/2005.

1.3.5 Each year official samples will be taken by Animal Health, or other authorised agent, acting on behalf of the Competent Authority. When an official sample is taken it may replace the sample required to be taken by the operator.

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. 584/2008.

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<sup>6</sup> Personal communication – Dr R H Davies, National Reference Laboratory for *Salmonella*.

## **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 fattening and breeding turkey flocks covered by the scope of Regulation (EC) No 2160/2003. All breeding turkey flocks of 250 or more birds will be included in the scope of the programme. For fattening turkey flocks, 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.

## **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 fattening and rearing turkey flocks 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<sup>7</sup>, 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 With reference to the slaughter of flocks of fattening turkeys 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.

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<sup>7</sup> The Food Standards Agency (FSA) 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. 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. Further information can be found at [www.food.gov.uk](http://www.food.gov.uk)

1.5.4 In respect of EC Regulation No 183/2005 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.<sup>8</sup>

1.6.2 Samples which are taken by the operator from fattening, rearing or breeding turkey flocks may be sent to a laboratory approved for the testing of *Salmonella* in samples taken under 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 turkey flocks), 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).

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<sup>8</sup> 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).

## 1.7.0 Methods used in the examination of the zoonoses or zoonotic agents.

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 584/2008 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 current 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 Regulation (EC) No 584/2008 the Competent Authority will select each year at random<sup>9</sup>:

- all flocks on at least 10% of holdings with more than 500 **fattening turkeys**.
- All flocks on at least 10% of holdings with at least 250 adult **breeding turkeys** between 30 and 45 weeks of age, but including all holdings where *S. Enteritidis* or *S. Typhimurium* has been detected during the previous 12 months and all holdings with elite, great grandparents and grandparent breeding turkeys. This sampling may also take place at the hatchery
- Each time the Competent Authority considers it necessary

1.8.2 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. In the case of fattening turkeys the flock should be within 3 weeks of going for slaughter. The selected flock will be sampled in accordance with the Annex in Regulation (EC) No 584/2008..

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 considered suitable by the Competent Authority and taking into account the product Marketing Authorisation. Flock owners are required to keep records of antimicrobial use and to make these records available under The Animals, Meat and Meat Products (Examination for Residues and Maximum limits) Regulations 1991 Statutory Instrument

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<sup>9</sup> The sampling protocol is subject to review after the 1<sup>st</sup> year of implementation according to Regulation (EC) 2160/2003.

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 also be recorded.

1.8.5 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 and establishments handling processed meat to demonstrate compliance with microbiological criteria for *Salmonella* that includes undertaking microbiological testing for *Salmonella* and corrective action when the criteria are not met. The sampling frequencies are prescribed in the Regulation but do not apply to establishments producing small quantities. In the UK sampling frequencies for small quantities vary depending on the plants throughput. Further details are available on the website <http://www.ukmeat.org/Overview.htm>. The verification of compliance with these rules and criteria is carried out by 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 on behalf of the FSA, which is the Competent Authority.

## **1.9.0 Operator/owner's Obligations.**

1.9.1 Operators/owners are required to take samples from fattening and breeding flocks in accordance with the Annex of EC Regulation No. 584/2008. The samples taken shall be labelled to identify:

- the identity of the flock sampled,
- number of birds in the flock, and
- the date on which it was sampled.

In all meat turkey flocks the samples shall be taken within three weeks of the first birds being sent for slaughter from the flock, preferably in sufficient time for the results of tests on the samples for *Salmonella* to be available before the birds are slaughtered.

Additionally, in breeding flocks, the food business operator shall, on their own initiative, take samples in rearing flocks at day old, four weeks of age and two weeks before moving to the laying phase or unit and in adult flocks at least every third week during the laying period at the holding or at the hatchery.

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 the 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.

These records shall be made available to the Competent Authority or its agent.

1.9.4 Samples taken as above shall preferably be sent by express mail or courier within 24 hours of collection to a laboratory authorised by Defra or DARD for the detection of *Salmonella*. If not sent within 24 hours the sample may be stored refrigerated for up to a maximum of 24 hours and then sent to the laboratory so as to arrive within 48 hours of the time of collection of the sample. 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 turkey flocks 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 turkey 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 584/2008.

## **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 turkey flock 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 samples, carried out privately or as required by either the operator or the Competent Authority as detailed in the Annex to Regulation (EC) No 584/2008. 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 2009 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.

2.1.12 Isolates of *S. Enteritidis* and *S. 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 meat turkeys in the UK, *Salmonella* Typhimurium vaccine is sometimes used in breeding flocks. Also, this practice may change in the future if suitable vaccines are developed.

### **Fattening turkeys**

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.

2.1.3 When *S. Enteritidis* or *S. Typhimurium* is detected in a flock of fattening turkeys, sampling by the Competent Authority will take place in all flocks on the holding in circumstances as laid out in Regulation (EC) No 584/2008.

2.1.4 When a fattening 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 should 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.

### **Breeding Turkeys**

2.1.5 When a breeding turkey flock is suspected of being infected with *Salmonella* Enteritidis or *Salmonella* Typhimurium, they will be subject to controls as laid out in Regulation (EC) No 2160/2003 and Community legislation on food hygiene. This applies to breeding flocks from day old through to end of production.



2.1.6 The owner or person responsible for the flock is required to clean and disinfect the building where the infected birds were kept, and provide evidence to the Competent Authority that the cleaning and disinfection has been satisfactory.

2.1.7 Sampling by the Competent Authority will be carried out on all flocks on holdings in case of detection of *Salmonella* Enteritidis or *Salmonella* Typhimurium from samples taken at the hatchery by food business operators or within the frame of official controls, to investigate the origin of infection, Official sampling will be carried out on all holdings/hatcheries where *S. Enteritidis* or *S. Typhimurium* was detected during the previous 12 months as part of the framework of annual official sampling to be carried out under the control of the Competent Authority. This sampling will take place according to the procedure in point 2.2. of the Annex to Regulation (EC) No 1003/2005.

### **General**

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 turkeys 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 prevention and control of *Salmonella* in commercial turkey flocks will be supplied to the producer to help educate, and to help the producer implement measures to reduce *Salmonella* in the flocks. During 2009 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 584/2008. A Code of Practice for the prevention of rodent infestations in poultry flocks will be available in 2009<sup>10</sup>.

2.1.9 The operator/owner in consultation with his/her veterinarian may consider vaccination of the flock against *Salmonella* with a product which has a marketing authorisation in line with the requirements of Commission Regulation (EC) No. 1177/2006 as regards requirements for the use of specific control methods in the framework of the national programmes for the control of *Salmonella*. Vaccination may only be used as a preventative measure; it is not an alternative to the requirements in Annex II C of Commission Regulation (EC) No 2160/2003 for the use of specific control methods in the framework of the national programmes for the control of *Salmonella*.

2.1.10 Antimicrobial treatment may not be used for the control of *Salmonella* in the national control programme except within the limits set by Commission Regulation (EC) No.1177/2006.

2.1.11 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.

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<sup>10</sup> [http://www.defra.gov.uk/animalh/diseases/zoonoses/zoonoses\\_reports/salrodent.pdf](http://www.defra.gov.uk/animalh/diseases/zoonoses/zoonoses_reports/salrodent.pdf)

## 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 and the payment of compensation. In Northern Ireland the Disease of Animals (Northern Ireland) Order 1981 designates *Salmonella* as a disease of poultry and provides similar powers as above.
- Further legislation will be introduced or current legislation amended during 2009 to provide a legislative basis for the National Control Programme for *Salmonella* in turkeys flocks
- 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:

- 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](http://www.opsi.gov.uk/acts/acts1990/Ukpga_19900016_en_1.htm)

2.2.4 A full consultation on the proposed new legislation will take place in 2009 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 turkey flocks no financial assistance is provided in the context of the control programme. Aspects of the programme, where suitable, may be subject to cost recovery in the case of routine sampling carried out by the Competent Authority. In breeding turkey flocks, the provisions of the Animal Health Act 1981 will apply where relevant.

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 may consider 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 breeding and fattening turkey flocks 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 turkey 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 and oilseeds 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 small number of 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, turkeys for human consumption must be slaughtered in approved slaughterhouses, except for those cases where derogations apply. In Great Britain there are 93 approved poultry slaughterhouses and 7 in Northern Ireland of which 41 in Great Britain and one in Northern Ireland slaughter turkeys. 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 full title of the Meat Industry Guide<sup>11</sup>, also known as the MIG, is "A guide to the food hygiene and other regulations for the meat industry". It sets out the

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<sup>11</sup> The Meat Industry Guide is available at <http://www.food.gov.uk/multimedia/pdfs/mig25sept08.pdf>

detailed requirements that apply to the slaughter and processing of turkey meat in such meat plants

2.6.3 Producers who rear and slaughter small quantities 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 Meat Industry Guide. The enforcement authority on these exempt premises is the local authority.

2.6.4 Turkey meat sold at retail level within the UK is required to be marked with a four digit 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 in accordance with EU Regulation No. 853/2004, Annex II, Section I (Identification Marking).

2.6.5 Further information on the production of turkey 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 Registration of farms.**

2.8.1 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).

2.8.2 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.

## **2.9.0 Routine veterinary supervision and record keeping at farms.**

2.9.1 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.

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

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

2.9.4 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. The flock of origin and the hatchery must be currently registered with the Poultry Health Scheme in compliance with EU Directive 90/539/EC. This is administered by the Animal Health Agency, which undertakes the approval process and administers the scheme for hatcheries and flocks.

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)<sup>12</sup>, 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 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.

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<sup>12</sup> 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).

### **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
<b>S. Enteritidis</b>	12.98	<b>S. Enteritidis</b>	9.64	<b>S. Enteritidis</b>	5.34
of these PT4	<u>3.59</u>	of these PT4	<u>1.63</u>	of these PT4	<u>0.75</u>
<b>S. Typhimurium</b>	2.7	<b>S. Typhimurium</b>	4.02	<b>S. Typhimurium</b>	2.61
of these DT104	<u>0.52</u>	of these DT104	<u>1.35</u>	of these DT104	<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
<b>S. Enteritidis</b>	12.5	<b>S. Enteritidis</b>	10.30	<b>S. Enteritidis</b>	4.85
of these PT4	<u>3.33</u>	of these PT4	<u>2.26</u>	of these PT4	<u>0.76</u>
<b>S. Typhimurium</b>	2.7	<b>S. Typhimurium</b>	4.04	<b>S. Typhimurium</b>	1.93
of these DT104	<u>0.7</u>	of these DT104	<u>1.69</u>	of these DT104	<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. Saintpaul	0.23
S. Hadar	0.29	S. Saintpaul	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.**

#### ***Sampling at the hatchery***

Sampling shall occur at the hatchery in accordance with the provisions laid down in point 2.2.1 of the Annex to Regulation (EC) No 1003/2005.

#### ***Sampling at the holding for each flock\****

#### **Breeding turkeys**

Samples from adult turkey breeding flocks shall be taken in accordance with the provisions laid down in point 2.2. of the Annex to Regulation (EC) No. 1003/2005.

<b>Phase of production</b>	<b>Type of sample</b>
Every third week from each adult breeding flock	5 pairs of boot swabs from each flock pooled into a minimum of two composite samples.  OR One pair of boot swabs and a dust sample to be analysed as 2 pools.

Samples shall also be taken at the initiative of the food business operator during the rearing phase at day old, at 4 weeks of age and at two weeks before moving to the laying phase or laying unit

#### **Fattening turkeys**

At least two pairs of boot/sock swabs or one boot/sock swab and one dust sample shall be taken. For free range flocks of turkeys, samples shall only be collected in the area inside the house. All boot/sock swabs may be pooled into one sample. In flocks with less than 100 turkeys, 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 putting on 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. If 2 pairs of boot swabs are taken, each pair should cover about 50 % of the area of the house and that at least 100 steps should be taken with each pair of boot swabs. Alternatively, if one pair of boot swabs is taken, the sampling must be carried out so as to ensure covering 100 % of the area of the house if combined with a dust sample,



collected from multiple places throughout the house from surfaces with visible presence of dust.

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. The Competent Authority shall supervise education of the food business operators to guarantee the correct application of the sampling protocol. In the case of sampling by the Competent Authority because of suspicion of *Salmonella* infection in a flock on that holding and in any other case considered appropriate, the Competent Authority shall satisfy itself by conducting further tests as appropriate so that the results of examinations for *Salmonella* in flocks of turkeys are not affected by the use of antimicrobials in those flocks. Where the presence of *Salmonella* Enteritidis and *Salmonella* Typhimurium is not detected but antimicrobials or bacterial growth inhibitory effect are detected it shall be considered as an infected flock of turkeys for the purpose of the Community target referred to in Article 1 of Commission Regulation 584/2008.

\* '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

#### 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 4

#### Flocks and Holdings of fattening and breeding turkey flocks in GB<sup>13</sup>.

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
<b>Totals for UK</b>	<b>89</b>	<b>504</b>	<b>285</b>	<b>417</b>	<b>1295</b>

In data from the GB Poultry Register on 03 November 2008 there were a total of 1,284 premises which kept a total of 11,896,443 turkeys, of which 108 were breeding premises keeping 1,054,159 turkeys, 1,148 fattening turkeys premises keeping 10,682,225 turkeys and the rest were of unknown purpose.

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<sup>13</sup> Census data 2004

**Annex 5**  
**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 <a href="http://www.defra.gov.uk/animalh/diseases/zoonoses/zoonoses_reports/salmonellainchi ck.pdf">http://www.defra.gov.uk/animalh/diseases/zoonoses/zoonoses_reports/salmonellainchi ck.pdf</a>
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 Control of <i>Salmonella</i> – For The Prevention of Rodent Infestation In Poultry Flocks. Ref No 2630 <a href="http://www.defra.gov.uk/animalh/diseases/zoonoses/zoonoses_reports/salrodent.pdf">http://www.defra.gov.uk/animalh/diseases/zoonoses/zoonoses_reports/salrodent.pdf</a>
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