EUROPEAN COMMISSION
HEALTH & CONSUMERS DIRECTORATE-GENERAL
Unit 04 - Veterinary Control Programmes

SANCO/12903/2010

Programmes for the eradication, control and monitoring of certain animal diseases and zoonoses

Control programme of Salmonella

Approved* for 2011 by Commission Decision 2010/712/EU

Denmark

* in accordance with Council Decision 2009/470/EC

Program for Eradication : ANNEX 2

Country Geographical English Name	Denmark
Submission number	1272540392654-290
Submission date	29/04/2010 13:26:33

(a) State the aim of the program

The main objectives of the control programme are:
a) To further reduce the incidence of infected table egg layer flocks
b) To further reduce the prevalence of infected broiler flocks/batches of birds
c) To further reduce the occurrence of human salmonellosis related to Danish-produced poultry products

(b) Animal population and phases of production which sampling cover

Breeding flocks of Gallus gallus

Gallus Slaughter Pigs	
Gallus Hens Pullets	
Partab Gallus Hens Laying	
Gallus Hens Day Old	
Gallus Four Week	X
Gallus During Laying	X
Partab Gallus Day Old	X
Gallus Breeding Pigs	
Gallus Before Laying	X

(c) Demonstrate the evidence...

The Danish programme complies with the specific requirements laid down in Parts C, D and E of Annex 2 to 2160/2003.
The National Salmonella Control Programme encompasses all serovars of salmonella (except for the host-specific Salmonella Pullorum and Salmonella Gallinarum, which cause fowl typhoid).
The sample-taking programme combines bacteriological (faecal droppings, swaps, socks, crate liners, hatcher basket liners, broken egg shells, dust, hatching dust, hens) and serological (egg) samples in order to optimize the chance of detecting infected flocks as soon as possible.
The routine sampling scheme is summarised in Table 2A (grandparent flocks) and Table 2B (parent flocks). Table 3 shows the routine sampling scheme for egg layers. All sample-taking programmes are designed to provide maximum coverage in detecting potential salmonella infection. The sampling programmes have been regularly revised, and the latest programmes have been effective from 1 January 2009.
The results are summarized in Annex 4-6.

(d) Specification of following points :

(d)1. General

(d)1.1 A short summary referring to the occurrence

The first Danish programme for controlling salmonella in the production of broilers and table eggs was approved by the European Commission as an implementation of the Council Directive 92/117/EEC and took effect on 1 January 1994.
An increasing number of human salmonellosis cases related to the consumption of eggs and chicken meat prompted in 1996 the Ministry of Agriculture and Fisheries to implement an extended surveillance and control programme for the prevention of salmonella in the table egg and broiler productions. Initially, the budget of the National Salmonella Control Programme was 188.1 mill. DKK (~25 mill. €) over a 3-year period. In 1999, 62.9 mill DKK was not spent and the Danish Parliament adopted an extension of the programme by three more years (2000-2002).

From 1 January 2003 onwards the Danish Poultry Council has assumed responsibility for the daily administrative and financial aspects of the National Salmonella Control Programme under continuous monitoring and control by the Danish Veterinary and Food Administration.
Denmark has consistently informed the European Commission on the progress of the programme (intermediate and annual reports). Furthermore, historical data concerning this programme are available from the "Annual Report on Zoonoses in Denmark" which has been published by the Danish Ministry of Food, Agriculture and Fisheries (In a period from 2004-2007 the Ministry of Family and Consumer Affairs) throughout the duration of the programme. In 2004, the report "The National Salmonella Control Programme for the Production of Table Eggs and Broilers, 1996-2002" was published.
The search for historical data in the Salmonella Database is somewhat uncertain as some holdings/houses may have converted from one type of production to another over time and therefore may be included in different production type categories than the ones in which they were registered at the time of examination. The database is structured so that if the production type of a house changes, all previously entered data concerning the production type in the house concerned will also be modified. Therefore, use of the database for historical reasons is not appropriate. The numbers of examined and infected flocks have been continuously reviewed, however, for use at steering committee meetings and for various publications.
In September 2007, Denmark has applied to The European Commission for special guaranties for Salmonella in poultry meat (Gallus gallus) and table eggs.

(d)1.2 A short summary referring to the occurrence of the samonella

The public administration is divided into one central and 3 regional sections. The central section is located in the headquarter of the Danish Veterinary and Food Administration, situated in Mørkhøj outside Copenhagen, where the Division for Microbiological Food Safety, Hygiene and Zoonoses Control is responsible for activities relating to the National Salmonella Control Programme. The Division for Microbiological Food Safety, Hygiene and Zoonoses Control is supervising and having the overall control with the programme. The central section controls among other things the regional follow-up on suspected and infected flocks.
The 2 Regional Veterinary and Food Control Authorities (RVFCA) are responsible for the practical accomplishment of the National Salmonella Control Programme, i.e. the administration of investigating positive salmonella results has been delegated to the RVFCA. The activities of RVFCA comprise collection of some routine samples and all samples from suspected flocks, placing infected herds under public supervision, information to farmers about restrictions and precautions etc., as well as approval of cleaning and disinfection after removal of infected flocks.
The National Veterinary Institute (Formerly The Danish Institute of Food and Veterinary Research (DFVR)) is national reference laboratory (NRL) performing serological and some of the bacteriological analyses. Furthermore, private laboratoris have been approved to perform certain bacteriological routine analyses. The NRL with intervals organizes collaborative testing of the approved laboratories. The NRL evaluates the laboratories on basis on results in testing of samples delivered by the NRL.
The participating laboratories are by routine tested for the MSRV-method. Laboratories, which apply other methods of analysis in official controls, must participate in collaborative testing in these methods as well.
The Danish Poultry Council is the industrial organization for producers, egg packing stations, hatcheries and slaughterhouses and is represented in task groups. The industry has the finan-cial

responsibility for the National Salmonella Control Programme. The Danish Poultry Council is responsible for the daily administration of the programme. The Danish Poultry Council is responsible for continuously updating the registration of all poultry producers (including farm-gate sellers) and for informing and guiding the producers, so they are fully capable of complying with the National Salmonella Control Programme and for investigating any irregularities. The Danish Veterinary and Food Administration plans to continuously monitor the Danish Poultry Council's administration and continuation of the National Salmo-nella Control Programme.
The Danish Poultry Council is responsible for registering new cases of suspected infection in the Salmonella Database. Laboratory results are sent direct to the producer, to the Regional Veterinary and Food Control Authorities (RVFCA) and to the Danish Poultry Council. A regional categorisation of search options within the database enables each RVFCA to follow the progression of a suspected infection in its own area. One element on which the future supervi-sion of the National Salmonella Control Programme will be based is the internal control exercised by each enterprise. Egg packing stations are under an obligation to discard the eggs of any producers who have not taken scheduled samples as planned or who are placed under suspicion.

(d)1.3 A short summary referring to the occurrence of the samonella

The National Veterinary Institute is national reference laboratory (NRL) performing serological and some of the bacteriological analyses.

ALcontrol, Alcontrol AB, Olaus Magnus väg 27, 583 30 Linköping, Sweden: bacteriological analyses.

Eurofins Steins Laboratorium A/S, Hjaltesvej 8, DK-7500 Holstebro, Denmark: bacteriological analyses.

Three laboratories at the Regional Veterinary and Food Control Authorities' : bacteriological analyses.

(d)1.4 Methods in examination

Description of the used microbiological or virological tests: Two bacteriological tests are used:
ISO 6579 for samples specified in the Zoonosis Directive (pooled faecal samples, crate litter, meconium, chickens).
MSRV (Modified Semisolid Rappaport Vassiliadis)-method.
EiaFoss® for analyzing wet hatching dust. The analysis is a quick method, which consist of an enrichment step followed by an automated ELISA-analysis.

(d)1.5 A short summary referring to the occurrence of the samonellosis

The National Salmonella Control Programme encompasses all serovars of salmonella (except for the host-specific Salmonella Pullorum and Salmonella Gallinarum, which cause fowl ty-phoid). The sample-taking programme combines bacteriological (faecal droppings, swaps, socks, crate liners, hatcher basket liners, broken egg shells, dust, hatching dust, hens) and serological (egg) samples in order to optimize the chance of detecting infected flocks as soon as possible.

The routine sampling scheme is summarised in Table 2A (grandparent flocks) and Table 2B (parent flocks). Table 3 shows the routine sampling scheme for egg layers. All sample-taking programmes are designed to provide maximum coverage in detecting potential salmonella in-fection. The sampling programmes have been revised, and have been effective from 1 January 2009.

The results for 2009 are summarized in Annex 4-6.

(d)1.6 Measures

A positive routine sample found at the hatchery causes that a district veterinary officer from the Regional Veterinary and Food Control Authorities (RVFCA) samples the flock, i.e. "suspicion sampling". If the suspicion is confirmed, the flock is declared infected with salmonella. Official veterinary supervision is imposed on all holdings with infected flocks.
Holdings with breeding flocks of poultry infected with either Salmonella Enteritidis, S. Typhimurium, S. Virchow, S. Infantis or S. Hadar, will be placed under public veterinary supervision according to Order no. 1463. Hereafter, they will immediately be either slaughtered or destroyed in compliance with the Zoonoses Directive. In addition, hatching eggs are destroyed or heat-treated.
For other serovars of salmonella in breeding flocks and for all salmonella serovars in production animals, holdings with infected flocks will be subject to public veterinary supervision according to Order no. 1260 and Order no. 1463. The restrictions encompass destruction or heat-treatment of eggs from the date of suspected infection at an authorised egg product plant, isolation of infected flocks, extra hygienic measures e.g. special precautionary measures for coming and going between infected and uninfected flocks, special conditions for removal of animals and eggs as well as for handling of feeding stuffs and manure etc.
Intensified sample taking can be implemented in other table egg layer flocks at the same holding if infected flocks have been found. As a result, samples are taken under public supervision every

4 weeks instead of every 9 weeks from all uninfected flocks of a holding.
In herds with broiler flocks, a requirement for the heat treatment of all poultry meat of hens and chickens testing positive for salmonella prior to slaughter has been introduced in 2008. In addition, the control programme requires thorough cleaning and disinfectron following detection of salmonella in a broiler flock. In the following flock the owner must take one extra pair of sock samples in order to locate the source of any possible infection. In addition, the down-time after the slaughter of the following flock shall be extended to at least 12 days in order to ensure sufficient cleaning and disinfection of the poultry house.
A district veterinary officer from the Regional Veterinary and Food Control Authority must approve cleaning and disinfection on the basis of a visual and bacteriological assessment before it is legal to place new stock in an infected poultry house.

(d)1.7 A short summary referring to the occurrence of the samonellos

- Order no. 1260 of 18 December 2008 on the Control of Salmonella in Table Egg Flocks and Pullets Reared for them.
- Order no. 27 of 22 January 2009 to amend Order no. 1260 of 18 December 2008
- Order no. 1463 of 16 December 2009 on the Control of Salmonella in Hatching Egg Layer Hens and Pullets Reared for them
- Order no. 1462 of 16 December 2009 on salmonellosis in poultry and Salmonella and Campylobacter in slaughter poultry
- Order no. 1450 of 23 December 2009 on poultry production and turnover of poultry
- Order no. 239 of 12 April 1991 on Expenses and Compensation by Combating and Preventing Animal Diseases.
- Order no. 812 of 29 October 1999 to amend Order no. 239 of 12 April 1991
- Order no. 59 of 18 January 2010 on Registration of Holdings in the Central Husbandry Register

(d)1.8 Financial assistence

From 1 January 2001, the poultry industry has been covering all expenses for routine analyses. From 1 February 2003 expenses in connection with routine and suspicion samples have been covered by the poultry industry.

No national funding exists except for compensation for slaughter or destruction of breeding flocks infected with either Salmonella Enteritidis, S. Typhimurium, S. Virchow, S. Infantis or S. Hadar, and ordered destruction or heat-treatment of hatching eggs in compliance with the Zoonosis Directive. According to Order no. 239 and 812, there will be a compensation for the value of the animals and the destruction costs as well as a 20% compensation for the owners operating loss. Furthermore, compensation is also given for the value of killed "suspicion hens" and a 75% reimbursement of the test costs (routine samples) in small flocks are offered (table egg layer flocks and farm-gate flocks with less than 1,000 and 500 birds, respectively).

(d)2. Food and business covered by the programme

(d)2.1 Structure of the production

The National Salmonella Control Programme includes every type of flock of the domestic fowl, Gallus gallus, in the broiler and table-eggs sectors. The only exception is hobby flocks, i.e. small flocks with less than 100 animals, which are not allowed to sell eggs to consumers but can participate in the programme on a voluntary basis.
The number of holdings, flocks and animals in the broiler and table egg sectors as per 31 December 2009 are shown in Table 1.

(d)2.2 Structure of the production of feed

Danish feed business operators producing poultry feed have implemented a Code of practice for poultry feed processing based on HACCP principles. The feed business operators must implement a Bio security Monitoring Programme, which among other things includes heat-treatment at 81°C, sampling plans, cleaning procedures and corrective actions in case of high counts of coli bacteria or detection of Salmonella. Operators following the Code of practice are inspected 4 times a year by a third party, who reports to a survey group. The survey group decides on quarterly meetings which companies that are given a certificate of approval for the following quarter. The decision is made on the basis of the status of the company, the recommendations from the third party stated in a technical report along with the discussion in the survey group.

(d)2.3 Relevant guidelines

(d)2.3.1 Hygiene management at farms

Order no. 1450 of 23 December 2009 on poultry production deals with establishment and production in holdings with rearing for egg production and in hatcheries and any holding delivering to hatcheries. Houses must be brick-built or equivalent. Floors must be water impenetrable and with drain. There must be an entrance room, with a clean section and an unclean section separated by a grating. When a premise is empty between flocks, room and equipment must be cleaned and disinfected before a new flock is introduced

Holdings with rearing for egg production: It is specified, that the buildings including outdoor areas must be epidemiologically separated from the surroundings.

Hatcheries and holdings delivering to hatcheries: Gallus gallus must be kept indoor. Boots should be changed in the entrance room. All rooms and equipment must be kept clean and well maintained. Outdoor areas must be kept clean and vegetation should be removed in case it obstructs pest control. The rooms must be secured as well as it is possible against pest. The staff must not have contact to other poultry. In case staff members have any contact to other livestock, clothes must be changed completely.

Legislation does not impose specific bio security measures in table-egg producing holdings. However, the regional Veterinary and Food Control Authorities have the right to demand an extended sampling programme in holdings where the risk of infection is considered to be increased.

(d)2.3.2 Relevant guidelines

Poultry hatcheries and breeders must have an approval from the authorities before they start production. Such an approval is based on a.o. an evaluation of the hygiene standard of the buildings and the surroundings, and protection against introduction of infectious diseases. There are also provisions for the daily operation of the production such as cleaning and disinfection of buildings and surroundings before new chicks are put into the houses as well as requirements for transport of chicks and measures taken in case of suspicion of illness among the animals. These provisions are laid down in Order No. 1450 of 23 December 2009, which implements annex II of Council Directive 90/539/EEC of 15 October 1990 on animal health conditions governing intra-Community trade in, and imports from third countries of, poultry and hatching eggs in Danish legislation.
The general requirements for hygiene measures in the primary production are specified in annex I of regulation 852/2004 apply to broiler flocks.

As a supplement to the provisions in the legislation the Industry has issued a "Guide for Good Hygienic Practice for Broiler Production", which has been in force since 1997. The Guideline is revised continuously and the latest edition is from 2003.

From 1 January 2008 the Industry is obliged in broilers as well as layers, to have an own check programme that fulfils the demands in a guideline, which must be assessed by the competent Authority to be sufficient to prevent introduction of salmonella in the production chain and to combat salmonella if already introduced.

(d)2.3.3 Hygiene in transporting animals to and from farms

Animals from infected flocks belonging to holdings placed under public supervision are to be kept isolated and special conditions apply for removal of animals. In this connection, the district veterinary officer from the Regional Veterinary and Food Control Authority can perform control visits, if necessary. The district veterinary officer can issue a permit enabling logistic slaughtering, i.e. salmonella-negative flocks are slaughtered prior to flocks that have been found positive in order to limit cross-contamination (cf. Orders no. 1260 and 1463). It is also possible to order infected holdings with both parent flocks and production flocks to prepare an action plan that aims to reduce the risk of salmonella infection.

(d)2.4 Routine veterinary supervision of farms

All farms covered by Order no. 1450 are obliged to have a veterinay supervisor. This veterinary supervisor monitors that the farm keeps records of letality, mortality, laboratory results, origin and destination of the animall etc.

(d)2.5 Registration of farms

All holdings are registered in a central database, named the Central Husbandry Register (CHR) according to Order no. 59 of 18 January 2010. The CHR is owned by the Ministry of Food, Agriculture and Fisheries, and was launched in 1992. An unambiguous number registers each holding. For every holding the database covers measures and data concerning the flocks. The Danish Veterinary and Food Administration, which is part of the ministry, is responsible for supplying the database with information
Furthermore, the Salmonella Database is solely used for poultry and contains information on all registered holdings as well as all laboratory results, measures and all data concerning the poultry.

(d)2.6 Record keeping at farm

According to legislation all holdings have to keep comprehensive records concerning purchase and sale of animals. Records also include data on a.o. illness and mortality.

(d)2.7 Documents to accompany animals when dispatched

Animals from infected flocks belonging to holdings placed under public supervision are to be kept isolated and special conditions apply for removal of animals. These rules are defined in Order no. 1462 on. Animals for eksport are followed by the relevat documents regardin export or trade.

(d)2.8 Other relevant measures to ensure the tracebility of animals

Animals from infected flocks belonging to holdings placed under public supervision are to be kept isolated and special conditions apply for removal of animals. These rules are defined in Order no. 1462

1. Identification of the programme

Disease	Zoonotic Salmonella
Species	Breeding flocks of Gallus gallus
Other Species	
Requestperiod To	2011
Requestperiod From	2011

1.1 Contact

Contact Name	Pernille Charlotte Sørensen
Contact Phone	+45 33 95 63 04
Contact Fax	+45 33 95 60 01
Contact Email	PES@FVST.DK

2. Historical data on the epidemiological evolution of the disease

The National Salmonella Control Programme includes every type of flock of the domestic fowl, Gallus gallus, in the broiler and table-eggs sectors. The only exception is hobby flocks, i.e. small flocks with less than 100 animals, which are not allowed to sell eggs to consumers but can participate in the programme on a voluntary basis.
The number of holdings, flocks and animals in the broiler and table egg sectors as per 31 December 2009 are shown in Table 1.

3. Description of the submitted programme

The main objectives of the control programme are:
a) To further reduce the incidence of infected table egg layer flocks
b) To further reduce the prevalence of infected broiler flocks/batches of birds
c) To further reduce the occurrence of human salmonellosis related to Danish-produced poultry products.

The programme is described in Annexes 2A, 2B and 3.
The results for 2009 are summarized in Annex 4-6

The National Salmonella Control Programme includes every type of flock of the domestic fowl, Gallus gallus, in the broiler and table-eggs sectors. The only exception is hobby flocks, i.e. small flocks with less than 100 animals, which are not allowed to sell eggs to consumers but can participate in the programme on a voluntary basis.
The number of holdings, flocks and animals in the broiler and table egg sectors as per 31 December 2009 are shown in Table 1.

The programme is implemented in Denmark, which is considered to be one region

4. Measures of the submitted programme

4.1 Summary of measures under the programme

Duration of the programme :	2010
First year :	
Control	X
Testing	X
Slaughter and animals tested positive	X
Killing of animals tested positive	X
Vaccination	
Treatment of animal products	
Disposal of products	
Monitoring or surveillance	X
Other, please specify	n.a.
Last year :	

Control/eradication	X
Testing	X
Slaughter of positive animals	X
Killing of animals tested positive	X
Extended slaughter or killing	
Disposal of products	

4.2 Designation of the central authority in charge of supervising and coordinating the departments responsible for implementing the programme

The public administration is divided into one central and 3 regional sections. The central section is located in the headquarter of the Danish Veterinary and Food Administration, situated in Mørkhøj outside Copenhagen, where the Division for Microbiological Food Safety, Hygiene and Zoonoses Control is responsible for activities relating to the National Salmonella Control Programme. The Division for Microbiological Food Safety, Hygiene and Zoonoses Control is supervising and having the overall control with the programme. The central section controls among other things the regional follow-up on suspected and infected flocks.
The 3 Regional Veterinary and Food Control Authorities (RVFCA) are responsible for the practical accomplishment of the National Salmonella Control Programme, i.e. the administra-tion of investigating positive salmonella results has been delegated to the RVFCA. The activi-ties of RVFCA comprise collection of some routine samples and all samples from suspected flocks, placing infected herds under public supervision, information to farmers about restric-tions and precautions etc., as well as approval of cleaning and disinfection after removal of in-fected flocks.
The National Veterinary Institute (Formerly The Danish Institute of Food and Veterinary Research (DFVR)) is national reference laboratory (NRL) performing serological and some of the bacteriological analyses. Furthermore, some private laboratori have been approved to perform certain bacteriological routine analyses. The NRL with intervals organizes collaborative test-ing of the approved laboratories. . The NRL evaluates the laboratories on basis on results in testing of samples delivered by the NRL.
The participating laboratories are by routine tested for the MSRV-method. Laboratories, which apply other methods of analysis in official controls, must participate in collaborative testing in these methods as well.
The Danish Poultry Council is the industrial organization for producers, egg packing stations, hatcheries and slaughterhouses and is represented in task groups. The industry has the financial responsibility for the National Salmonella Control Programme. The Danish Poultry Council is responsible for the daily administration of the programme. The Danish Poultry Council is responsible for continuously updating the registration of all poultry producers (including farm-gate sellers) and for informing and guiding the producers, so they are fully capable of complying with the National Salmonella Control Programme and for investigating any irregularities. The Danish Veterinary and Food Administration plans to continuously monitor the Danish Poultry Council's administration and continuation of the National Salmonella Control Programme.
The Danish Poultry Council is responsible for registering new cases of suspected infection in the Salmonella Database. Laboratory results are sent direct to the producer, to the Regional Veterinary and Food Control Authorities (RVFCA) and to the Danish Poultry Council. A regional categorisation of search options within the database enables each RVFCA to follow the progression of a suspected infection in its own area. One element on which the future supervi-sion of the National Salmonella Control Programme will be based is the internal control exer-cised by each enterprise. Egg packing stations are under an obligation to discard the eggs of any producers who have not taken scheduled samples as planned or who are placed under suspicion.

The steering committee and two technical task groups work continuously, thereby providing continuous monitoring of the continuation of the programme. The steering committee is given the executive responsibility for the wording and scientific veterinary content of the National Salmonella Control Programme and for approving all amendments. The Danish Veterinary and Food Administration is represented in these groups and has the chairmanship of the

4.3 Description and delimitation of the geographical and administrative areas in which the programme is to be implemented

The programme is implemented in Denmark, which is considered to be one region.
NUTS-region DK 1

4.4 Measures implemented under the programme

4.4.1 Measures and applicable legislation as regards the registration of holdings

Order no. 59 of 18 January 2010 on Registration of Holdings in the Central Husbandry Register

4.4.2 Measures and applicable legislation as regards the identification of animals

Not applicable for poultry

4.4.3 Measures and applicable legislation as regards the notification of the disease

- Order no. 1260 of 15 December 2008 on the Control of Salmonella in Table Egg Flocks and Pullets Reared for them
- Order no. 1463 of 16 December 2009 on the Control of Salmonella in Hatching Egg Layer Hens and Pullets Reared for them
- Order no. 1462 of 16 December 2009 on salmonellosis in poultry and Salmonella and Campylobacter in slaughter poultry
- Order no. 1450 of 23 December 2009 on poultry production and turnover of poultry

4.4.4 Measures and applicable legislation as regards the measures in case of a positive result

A positive routine sample found at the hatchery causes that a district veterinary officer from the Regional Veterinary and Food Control Authorities (RVFCA) samples the flock, i.e. "suspicion sampling". If the suspicion is confirmed, the flock is declared infected with salmonella. Official veterinary supervision is imposed on all holdings with infected flocks.
Holdings with breeding flocks of poultry infected with either Salmonella Enteritidis, S. Typhimurium, S. Virchow, S. Infantis or S. Hadar, will be placed under public veterinary supervision according to Order no. 1463. Hereafter, they will immediately be either slaughtered or destroyed in compliance with the Zoonoses Directive. In addition, hatching eggs are destroyed or heat-treated.
For other serovars of salmonella in breeding flocks and for all salmonella serovars in production animals, holdings with infected flocks will be subject to public veterinary supervision according to Order no. 1260 and Order no. 1463. The restrictions encompass destruction or heat-treatment of eggs from the date of suspected infection at an authorised egg product plant, isolation of infected flocks, extra hygienic measures e.g. special precautionary measures for coming and going between infected and uninfected flocks, special conditions for removal of animals and eggs as well as for handling of feeding stuffs and manure etc.
Intensified sample taking can be implemented in other table egg layer flocks at the same holding if infected flocks have been found. As a result, samples are taken under public supervision every 4 weeks instead of every 9 weeks from all uninfected flocks of a holding.
In herds with broiler flocks, a requirement for the heat treatment of all poultry meat of hens and chickens testing positive for salmonella prior to slaughter has been introduced in 2008. In addition, the control programme requires thorough cleaning and disinfection following detection of salmonella in a broiler flock. In the following flock the owner must take one extra pair of sock samples in order to locate the source of any possible infection. In addition, the down-time after the slaughter of the following flock shall be extended to at least 12 days in order to ensure sufficient cleaning and disinfection of the poultry house.
A district veterinary officer from the Regional Veterinary and Food Control Authority must approve cleaning and disinfection on the basis of a visual and bacteriological assessment before it is legal to place new stock in an infected poultry house.

4.4.5 Measures and applicable legislation as regards the different qualifications of animals and herds

- Order no. 1260 of 15 December 2008 on the Control of Salmonella in Table Egg Flocks and Pullets Reared for them

- Order no. 27 of 22 January 2009 to amend Order no. 1260 of 18 December 2008

- Order no. 1463 of 16 December 2009 on the Control of Salmonella in Hatching Egg Layer Hens and Pullets Reared for them

4.4.6 Control procedures and in particular rules on the movement of animals liable to be affected or contaminated by a given disease and the regular inspection of the holdings or areas concerned

Animals from infected flocks belonging to holdings placed under public supervision are to be kept isolated and special conditions apply for removal of animals . In this connec-tion, the district veterinary officer from the Regional Veterinary and Food Control Authority can perform control visits, if necessary. The district veterinary officer can issue a permit ena-bling logistic slaughtering, i.e. salmonella-negative flocks are slaughtered prior to flocks that have been found positive in order to limit cross-contamination (cf. Orders no. 1463 and 1260). It is also possible to order infected holdings with both parent flocks and production flocks to prepare an action plan that aims to reduce the risk of salmonella infection.

4.4.7 Measures and applicable legislation as regards the control (testing, vaccination, ...) of the disease

It is not prohibited to vaccinate poultry against salmonella, but there are no vaccines with a marketing authorisation in Denmark at the moment. It is not allowed to use antibiotics against a salmonella-infection.

Tests used and sampling schemes: See annexes Tables 2A, 2B and 3.
The results for 2009 are summarized in Annex 4-6

4.4.8 Measures and applicable legislation as regards the compensation for owners of slaughtered and killed animals

No national funding exists except for compensation for slaughter or destruction of breeding flocks infected with either Salmonella Enteritidis, S. Typhimurium, S. Virchow, S. Infantis or S. Hadar, and ordered destruction or heat-treatment of hatching eggs in compliance with the Zoonosis Directive. According to Order no. 239 and 812, there will be a compensation for the value of the animals and the destruction costs as well as a 20% compensation for the owners operating loss. Furthermore, compensation is also given for the value of "killed suspicion hens" and a 75% reimbursement of the test costs (routine samples) in small flocks are offered (table egg layer flocks and farm-gate flocks with less than 1,000 and 500 birds, respectively).

4.4.9 Information and assessment on bio-security measures management and infrastructure in place in the flocks/holdings involved

Poultry hatcheries and breeders must have an approval from the authorities before they start production. Such an approval is based on a.o. an evaluation of the hygiene standard of the buildings and the surroundings, and protection against introduction of infectious diseases. There are also provisions for the daily operation of the production such as cleaning and disin-fection of buildings and surroundings before new chicks are put into the houses as well as re-quirements for transport of chicks and measures taken in case of suspicion of illness among the animals. These provisions are laid down in Order No. 1450 of 23 December 2009, which implements annex II of Council Directive 90/539/EEC of 15 October 1990 on animal health conditions governing intra-Community trade in, and imports from third countries of, poultry and hatching eggs in Danish legislation
The general requirements for hygiene measures in the primary production are specified in annex I of regulation 852/2004 apply to broiler flocks.

As a supplement to the provisions in the legislation the Industry has issued a "Guide for Good Hygienic Practice for Broiler Production", which has been in force since 1997. The Guideline is revised continuously and the latest edition is from 2003.

From 1 January 2008 the Industry is obliged in broilers as well as layers, to have an own check programme that fulfils the demands in a guideline, which must be assessed by the com-petent Authority to be sufficient to prevent introduction of salmonella in the production chain and to combat salmonella if already introduced.

5. General description of the costs and benefits of the programme

For many years it has been known that poultry in general often harbour latent infections with salmonella. Under proper management this is rarely associated with outbreaks of disease in poultry flocks. However, this latent infection in poultry may pose a serious human health risk. The overall aim of the National Salmonella Control Programme is to control the occurrence of salmonella in the poultry sector on a very low level and thereby protect humans against infection with food-borne salmonellas. Salmonella Enteritidis causes the major part of salmonella infections in commercial egg layer flocks and human infections with S. Enteritidis are mainly associated with infected eggs.
It is not possible direct to compare cost and benefit in connection with the effort. But in Denmark the consumers demand that the outermost possible is done to secure the quality of food-stuffs. Even if there was no public demand about salmonella, the egg packing stations and poultry slaughterhouses would presumably be forced to do a lot of effort anyhow.

The results for 2009 are summarized in Annex 4-6

6. Data on the epidemiological evolution during the last five years

6.1 Evolution of the zoonotic salmonellosis

Year	Region	Type of flock	Total number of flocks (a)	Total number of animals	Total number of flocks under the programme	Total number of animals under the programme	Number of flocks checked (b)	Serotype	Number of positive flocks (c)	Number of flocks depopulated	Total number of animals slaughtered or destroyed	kg/number (eggs destroyed)	Quantity of eggs destroyed	kg/number (eggs channelled to egg product))	Quantity of eggs channelled to egg product
2,009	Denmark	Breeding flocks of Gallus gallus	278	1,000,000	278	1,000,000	409	All serovars of salmonella (except for the host-specific Salmonella Pullorum and Salmonella Gallinarum,	2	2	36,815	number	623,908	number	152,000
2,008	Denmark	Breeding flocks of Gallus gallus	277	1,000,000	277	1,000,000	479	all serovars of salmonella (except for the host-specific Salmonella Pullorum and Salmonella Gallinarum,	3	3	49,450	number	619,020	kg	197,845
2,007	Denmark	Breeding flocks of Gallus gallus	276	1,000,000	276	1,000,000	462	all serovars of salmonella (except for the host-specific Salmonella Pullorum and Salmonella Gallinarum,	4	4	80,171	number	704,766	number	349,403
2,006	Denmark	Breeding flocks of Gallus gallus	126	940,000	126	940,000	150	all serovars of salmonella (except for the host-specific Salmonella Pullorum and Salmonella Gallinarum,	2	2	24,566	number	183,691	number	0

6. Data on the epidemiological evolution during the last five years

6.1 Evolution of the zoonotic salmonellosis

Year	Region	Type of flock	Total number of flocks (a)	Total number of animals	Total number of flocks under the programme	Total number of animals under the programme	Number of flocks checked (b)	Serotype	Number of positive flocks (c)	Number of flocks depopulated	Total number of animals slaughtered or destroyed	kg/number (eggs destroyed)	Quantity of eggs destroyed	kg/number (eggs channelled to egg product))	Quantity of eggs channelled to egg product
2,005	Denmark	Breeding flocks of Gallus gallus	137	970,000	137	970,000	189	all serovars of salmonella (except for the host-specific Salmonella Pullorum and Salmonella Gallinarum.	5	5	90,772	number	777,550	number	217,432
		Sum:	**1,094**	**4,910,000**	**1,094**	**4,910,000**	**1,689**		**16**	**16**	**281,774**		**2,908,935**		**916,680**

6.2 Stratified data on surveillance and laboratory tests

6.2.1 Stratified data on surveillance and laboratory tests for year :

Year	Region	Test Type	Test Description	Number of samples tested	Number of positive samples
2009	Denmark	serological test	Serological test (Antigen-mix ELISA) is used for egg samples. The test covers Salmonella Enteritidis, S. Typhimurium, S. Gallinarum and S. Pullorum.	36	0
2009	Denmark	microbiological test	ISO 6579 for samples specified in the Zoonosis Directive (pooled faecal samples,	12,085	2

6.2 Stratified data on surveillance and laboratory tests

6.2.1 Stratified data on surveillance and laboratory tests for year :

Year	Region	Test Type	Test Description	Number of samples tested	Number of positive samples
			crate litter, meconium, chickens). MSRV (Modified Semisolid Rappaport Vassiliadis)-metho d. EiaFoss® for analyzing wet hatching dust. The analysis is a quick method, which consist of an enrichment step followed by an automated ELISA-analysis.		
2008	Denmark	serological test	Serological test (Antigen-mix ELISA) is used for egg samples. The test covers Salmonella Enteritidis, S. Typhimurium, S. Gallinarum and S. Pullorum.	6	0
2008	Denmark	microbiological test	ISO 6579 for samples specified in the Zoonosis Directive (pooled faecal samples, crate litter, meconium, chickens). MSRV (Modified Semisolid Rappaport Vassiliadis)-metho d. EiaFoss® for	14,543	3

6.2 Stratified data on surveillance and laboratory tests

6.2.1 Stratified data on surveillance and laboratory tests for year :

Year	Region	Test Type	Test Description	Number of samples tested	Number of positive samples
			analyzing wet hatching dust. The analysis is a quick method, which consist of an enrichment step followed by an automated ELISA-analysis.		
2007	Denmark	serological test	Serological test (Antigen-mix ELISA) is used for egg samples. The test covers Salmonella Enteritidis, S. Typhimurium, S. Gallinarum and S. Pullorum.	16	0
2007	Denmark	microbiological test	ISO 6579 for samples specified in the Zoonosis Directive (pooled faecal samples, crate litter, meconium, chickens). MSRV (Modified Semisolid Rappaport Vassiliadis)-method. EiaFoss® for analyzing wet hatching dust. The analysis is a quick method, which consist of an enrichment step followed by an automated	12,509	4

6.2 Stratified data on surveillance and laboratory tests

6.2.1 Stratified data on surveillance and laboratory tests for year :

Year	Region	Test Type	Test Description	Number of samples tested	Number of positive samples
			ELISA-analysis.		
2006	Denmark	serological test	Serological test (Antigen-mix ELISA) is used for egg samples. The test covers Salmonella Enteritidis, S. Typhimurium, S. Gallinarum and S. Pullorum.	189	0
2006	Denmark	microbiological test	ISO 6579 for samples specified in the Zoonosis Directive (pooled faecal samples, crate litter, meconium, chickens). MSRV (Modified Semisolid Rappaport Vassiliadis)-method. EiaFoss® for analyzing wet hatching dust. The analysis is a quick method, which consist of an enrichment step followed by an automated ELISA-analysis.	15,158	2

6.2 Stratified data on surveillance and laboratory tests

6.2.1 Stratified data on surveillance and laboratory tests for year :

Year	Region	Test Type	Test Description	Number of samples tested	Number of positive samples
2005	Denmark	serological test	Serological test (Antigen-mix ELISA) is used for egg samples. The test covers Salmonella Enteritidis, S. Typhimurium, S. Gallinarum and S. Pullorum.	215	0
2005	Denmark	microbiological test	ISO 6579 for samples specified in the Zoonosis Directive (pooled faecal samples, crate litter, meconium, chickens). MSRV (Modified Semisolid Rappaport Vassiliadis)-method. EiaFoss® for analyzing wet hatching dust. The analysis is a quick method, which consist of an enrichment step followed by an automated ELISA-analysis.	15,248	5
			Sum:	**70,005**	**16**

6.3 Data on infection for year :

6.3 Data on infection for year :

Year	Region	Number of herds infected	Number of animals infected
2009	Denmark	2	36,815
2008	Denmark	3	49,450
2007	Denmark	4	80,171
2006	Denmark	2	24,566
2005	Denmark	5	90,772
	Sum:	**16**	**281,774**

6.4 Data on vaccination or treatment programmes for year :

Year	Region	Total number of herds	Total number of animals	Number of herds in vaccination or treatment programme	Number of herds vaccinated or treated	Number of animals vaccinated or treated	Number of doses of vaccine or treatment administered
2009	Denmark	88	1,000,000	0	0	0	0
2008	Denmark	89	1,000,000	0	0	0	0
2007	Denmark	89	1,000,000	0	0	0	0
2006	Denmark	92	940,000	0	0	0	0
2005	Denmark	89	970,000	0	0	0	0
	Sum:	**447**	**4,910,000**	**0**	**0**	**0**	**0**

7. Targets

7.1 Targets related to testing (one table for each year of implementation)

7.1.1 Targets on diagnostic tests for year :

Year	Region	Type of the test (description)	Target population (categories and species targeted)	Type of sample	Objective	Number of planned tests

7. Targets

7 .1 Targets related to testing (one table for each year of implementation)

7.1.1 Targets on diagnostic tests for year :

Year	Region	Type of the test (description)	Target population (categories and species targeted)	Type of sample	Objective	Number of planned tests
2,011	Denmark	n.a.	Breeding flocks of Gallus gallus	blood	surveillance	0
					Sum:	0

7.1.2 Targets on testing of flocks for year :

Year	Region	Type of flock	Total number of flocks (a)	Total number of animals	Total number of flocks/herds under the programme	Total number of animals under the programme	Number of flocks checked (b)	Serotype	Number of positive flocks (c)	Number of flocks depopulated	Total number of animals slaughtered or destroyed	kg/number (eggs destroyed)	Quantity of eggs destroyed	kg/number (eggs channelled to egg product))	Quantity of eggs channelled to egg product
2011	Denmark	Breeding flocks of Gallus gallus	278	1,000,000	278	1,000,000	409	All serovars of salmonella (except for the host-specific Salmonella Pullorum and Salmonella Gallinarum,	2	2	50,000	number	700,000.0	number	150,000.0
		Sum:	278	1,000,000	278	1,000,000	409	Sum:	2	2	50,000	Sum:	700,000.0	Sum:	150,000.0

7 .2 Targets on vaccination or treatment

7.2.1 Targets on vaccination or treatment for year :

7 .2 Targets on vaccination or treatment

7.2.1 Targets on vaccination or treatment for year :

Year	Region	Total number of herds in vaccination or treatment programme	Total number of animals in vaccination or treatment programme	Number of herds or flocks expected to be vaccinated or treated	Number of herds or flocks expected to be vaccinated or treated	Number of animals expected to be vaccinated or treated	Number of doses of vaccine or treatment expected to be administered
2011		0	0	0	0	0	0
	Sum:	**0**	**0**	**0**	**0**	**0**	**0**

8. Detailed analysis of the cost of the programme for year :

Year	Category	Specification	Cost related to	Number of units	Unitary cost	Total amount in EURO	Community funding requested
2011	1. Testing	n.a.	Cost of analysis	0	0	0	no
	2. Vaccination or treatment	not applicable	Purchase of vaccine/treatment of animal products	0	0	0	no
	3. Slaughter and destruction (without any salaries)	Value of destroyed animals	Compensation of animals	75,000	2	150,000	yes
	3. Slaughter and destruction (without any salaries)	Value of destroyed eggs	Compensation of eggs	700,000	0	7,000	yes
	3. Slaughter and destruction (without any salaries)	Loss from heat-treatment of eggs	Costs from treatment of animal products (milk, eggs,...)	150,000	0	1,500	yes
	4.Cleaning and disinfection	n.a.	Cleaning and disinfection	0	0	0	no
	5. Salaries (staff contracted for the programme only)	n.a.	Salaries	0	0	0	no
	6. Consumables and specific equipment	n.a.	Consumables and specific equipment	0	0	0	no
	7.Other costs	n.a.	n.a.	0	0	0	no
						158,500	
			Total	**925,000**		**158,500**	