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

SANCO/3841/2008

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

Control programme of Salmonella in breeding, laying and broiler flocks

Approved* for 2009 by Commission Decision 2008/897/EC

The Netherlands

* in accordance with Commission Decision 90/424/EEC

PROPOSED
VETERINARY CONTROL PROGRAMME
FOR

SALMONELLA IN BROILERS
PRESENTED FOR 2009*

BY
THE NETHERLANDS

*In accordance with Regulation 2160/2003 and (EG) Nr. 646/2007

INDEX

1. IDENTIFICATION OF THE PROGRAMME

Member state:	The Netherlands
Disease:	Infection of animals with zoonotic Salmonella spp
Year of implementation:	1-1-2009 until 31-01-2011
Reference of this document:	final version, version 2
Geographical Area:	The Netherlands

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2. HISTORICAL DATA ON THE EPIDEMIOLOGICAL EVOLUTION OF ZOONOTIC SALMONELLOSIS

The Netherlands has two programmes to control the prevalence of Salmonella, one for the poultry meat chain (the basis for this programme) and one for the egg production chain. In this Chapter these two programmes are mentioned together with the infection percentages in the poultry meat chain and the egg production chain.

Poultry meat

In May 1997 a programme to control the prevalence of Salmonella in poultry was started. The programme (called: "Plan of Approach Salmonella and Campylobacter in the Poultry meat sector 1997") that was designed involved strict hygiene rules and the monitoring of Salmonella infections throughout the poultry meat production chain. The programme obligatory for all poultry meat operators (from grandparent flock to slaughterhouse and cutting plant) in the Netherlands. The plan was introduced with the aim to decrease the number of Salmonella infections (in staughtered broilers) to less then 10 % by the year 2000. The actions involved in the Plan were obligatory, pursuant to the legislation of the PPE.

The effects of the programme were evaluated in January 2000. The monitoring results showed a reduction of the percentage of Salmonella infected broilers after slaughter. In the fourth quarter of 1999 16 % of the slaughtered broilers were infected with Salmonella, which meant that the initial aim was not achieved. This result led to the formulation of a stricter programme (called: "Action Plan Salmonella and Campylobacter in the Poultry meat sector 2000"). In this programme the Dutch industry aims for an elimination of all Salmonella serotypes in poultry meat. This means that this target is beyond of the Zoonoses Directive (2003/2160 EG), since this directive only aims on serotypes with public health significance. Again, the actions involved are obligatory.

For the Netherlands a SE / ST-infection percentage, based on bacteriological results, of 1 % was determined through a European study by the EFSA in October 2005–October 2006. This percentage is the starting-point for this programme. So at this moment the Netherlands already reached the target mentioned in EG 464/2007 article 1:

The Community target, as referred to in Article 4(1) of Regulation (EC) No 2160/2003, for the reduction of Salmonella enteritidis and Salmonella typhimurium in broilers (Community target) shall be a reduction of the maximum percentage of flocks of broilers remaining positive of Salmonella enteritidis and Salmonella typhimurium to 1 % or less by 31 December 2011.

In figure 1 results of the Action Plan Salmonella and Campylobacter in the Poultry meat sector 2000* for Se en St are shown for the period 4th quarter 2004 until 4th quarter of 2007. Figure 1 represents only the faecal sampling at the broiler farm.

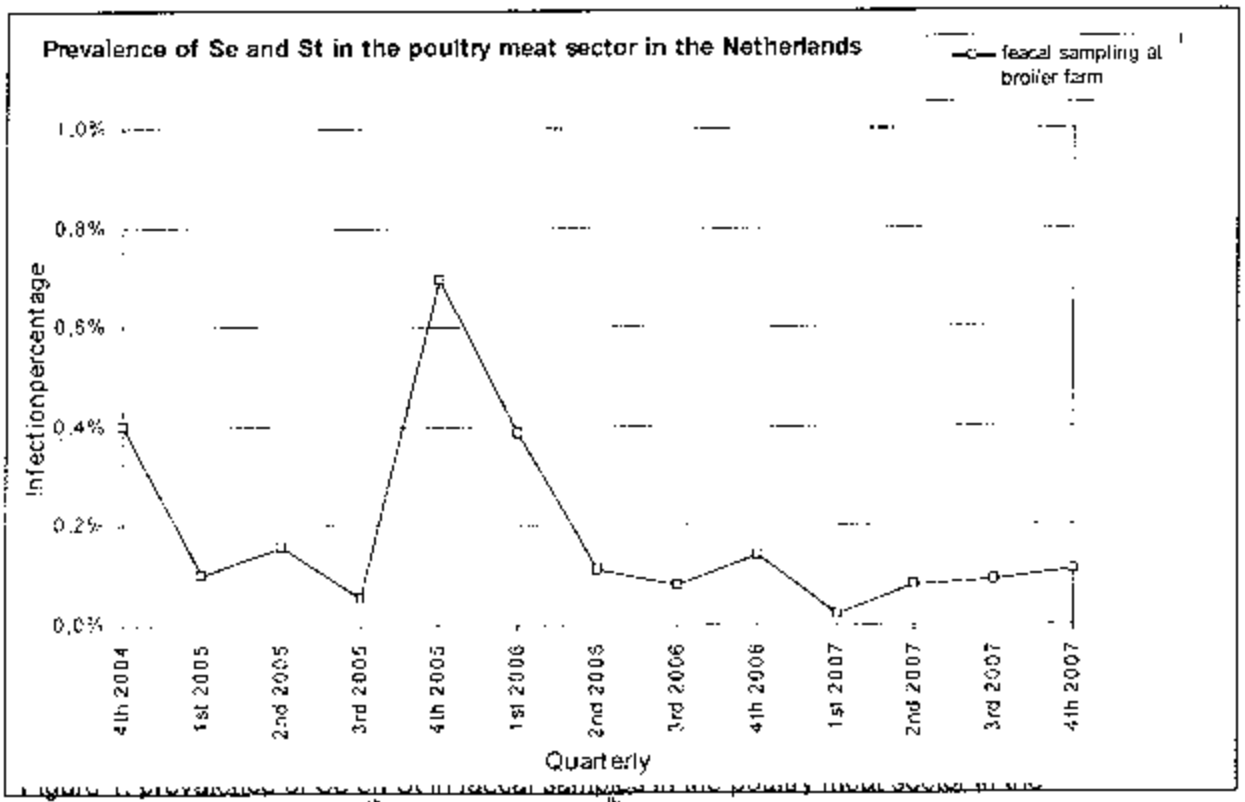


Figure 1 prevalence of Se en St in faecal samples in the poultry meat sector in the Netherlands for the period 4th quarter 2004 till 4th quarter 2007.

Figure 2 shows the results of the Action Plan Salmonella and Campylobacter in the Poultry meat sector 2000* for Se en St in end product for the period 4th quarter 2004 until 4th quarter of 2007. Figure 2 represents only the end product sampling at the slaughterhouse.

Figure 1 and figure 2 cannot be combined in one figure while sampling batches are not comparable. Sampling at the broiler farm is done per poultry house and sampling at the slaughterhouse is done per batch, which can be more than one poultry house.
Both figures are representing the prevalence of Se en St for each level in the production chain.

In figure 1 and 2 also flocks from foreign countries are included. Especially flocks from Germany are slaughtered in the Netherlands. Also flocks from abroad have to be sampled for Salmonella.

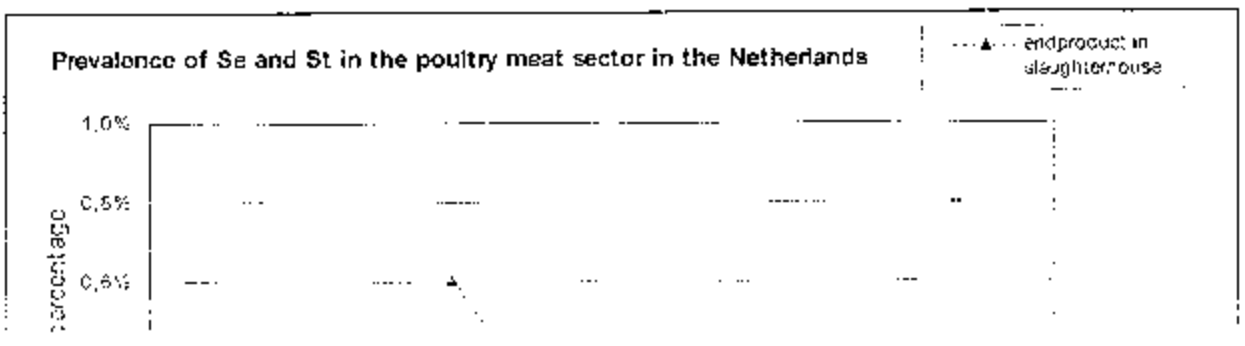


Figure 2: prevalence of Se en St at end product in the poultry meat sector in the Netherlands for the period 4th quarter 2004 till 4th quarter 2007

One of the objects of the current programme is to monitor the prevalence of all serotypes of Salmonella in all links of the production chain. In Figure 3 and Table 1 the monitoring results for all serotypes of Salmonella are presented from the 1st quarter of 2000 until the 4th quarter of 2007. In this figure:

1. Fluff; is the percentage of Salmonella positive fluff-samples taken from the hatcheries at the end of the hatching process.
2. Box paper; is the percentage of Salmonella positive samples taken from the day-old chicken box paper at the broiler farms.
3. S-faeces; is the percentage of Salmonella positive faecal samples taken at the broiler farms.
4. S-intestine; is the percentage of Salmonella positive intestine samples taken at the slaughterhouse.

Figure 4 shows the serotypes of Salmonella that have been found in the infected flocks (faecal sampling) in the 4th quarter 2007. Figure 5 and Table 2 show the infection percentage in the slaughterhouse. Finally Figure 6 shows the serotyping of end products infected with Salmonella in the 4th quarter of 2006.

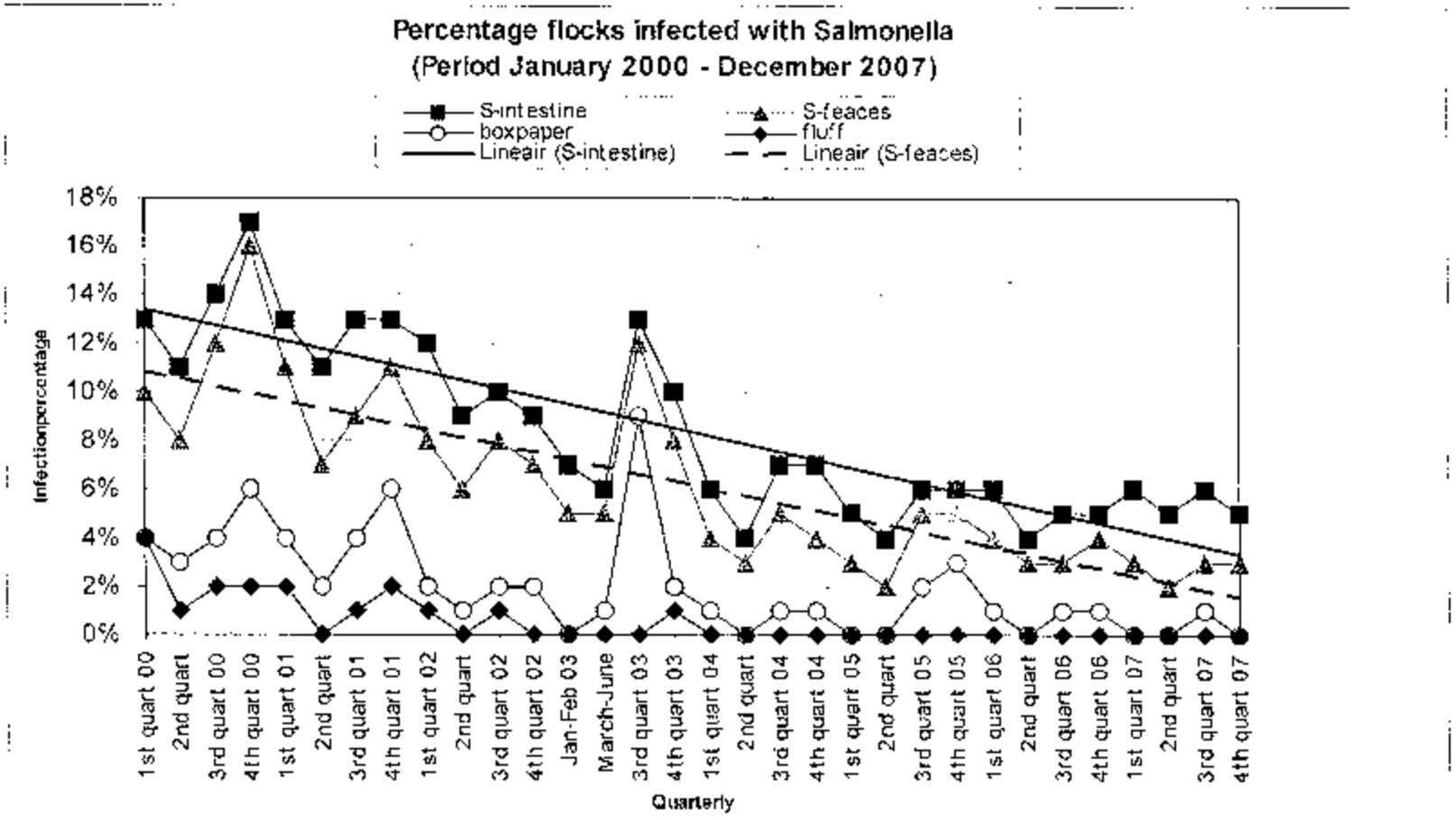


Figure 3: Percentages of Salmonella spp. positive samples taken from different links of the production chain per quarter (source PPE, 2008).

Table 1: Percentages of Salmonella spp. positive samples taken from different links of the production chain per quarter (PPE, 2008).

	S-intestine	S-faeces	Boxpaper	Fluff
4th quarter 2007	5%	3%	0%	0%
3th quarter 2007	6%	3%	1%	0%
2nd quarter 2007	5%	2%	0%	0%
1st quarter 2007	6%	3%	0%	0%
4th quarter 2006	5%	4%	1%	0%
3th quarter 2006	5%	3%	1%	0%
2nd quarter 2006	4%	3%	0%	0%
1st quarter 2006	6%	4%	1%	0%
4th quarter 2005	6%	5%	3%	0%
3th quarter 2005	6%	5%	2%	0%
2nd quarter 2005	4%	2%	0%	0%
1st quarter 2005	5%	3%	0%	0%
4th quarter 2004	7%	4%	1%	0%
3th quarter 2004	7%	5%	1%	0%
2nd quarter 2004	4%	3%	0%	0%
1st quarter 2004	6%	4%	1%	0%
4th quarter 2003	10%	8%	2%	1%
3th quarter 2003	13%	12%	9%	0%
March till June 2003*	6%	5%	1%	0%
Januari & Februari 2003	7%	5%	0%	0%
4th quarter 2002	9%	7%	2%	0%
3th quarter 2002	10%	8%	2%	1%
2nd quarter 2002	9%	6%	1%	0%
1st quarter 2002	12%	8%	2%	1%

* In this period Avian Influenza problems were overruling the monitoring of Salmonella.

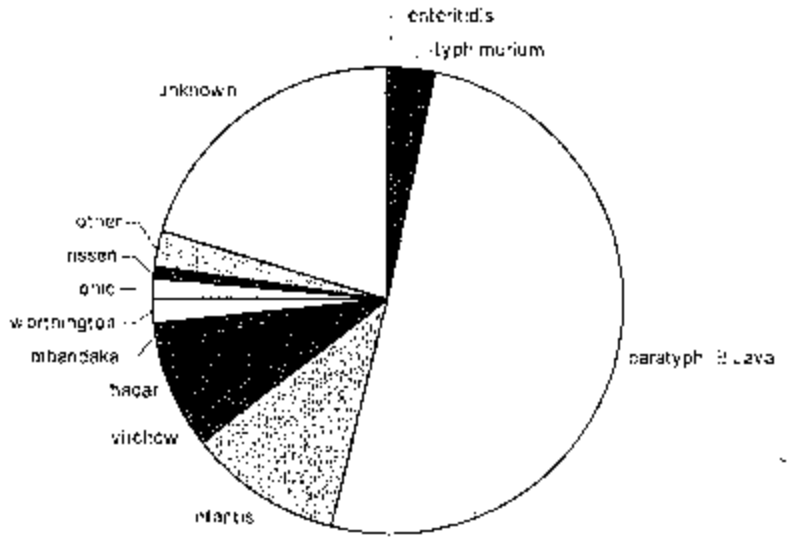


Figure 4: Serotyping of faecal sampling Salmonella, 4th quarter 2007 (PVE 2008)

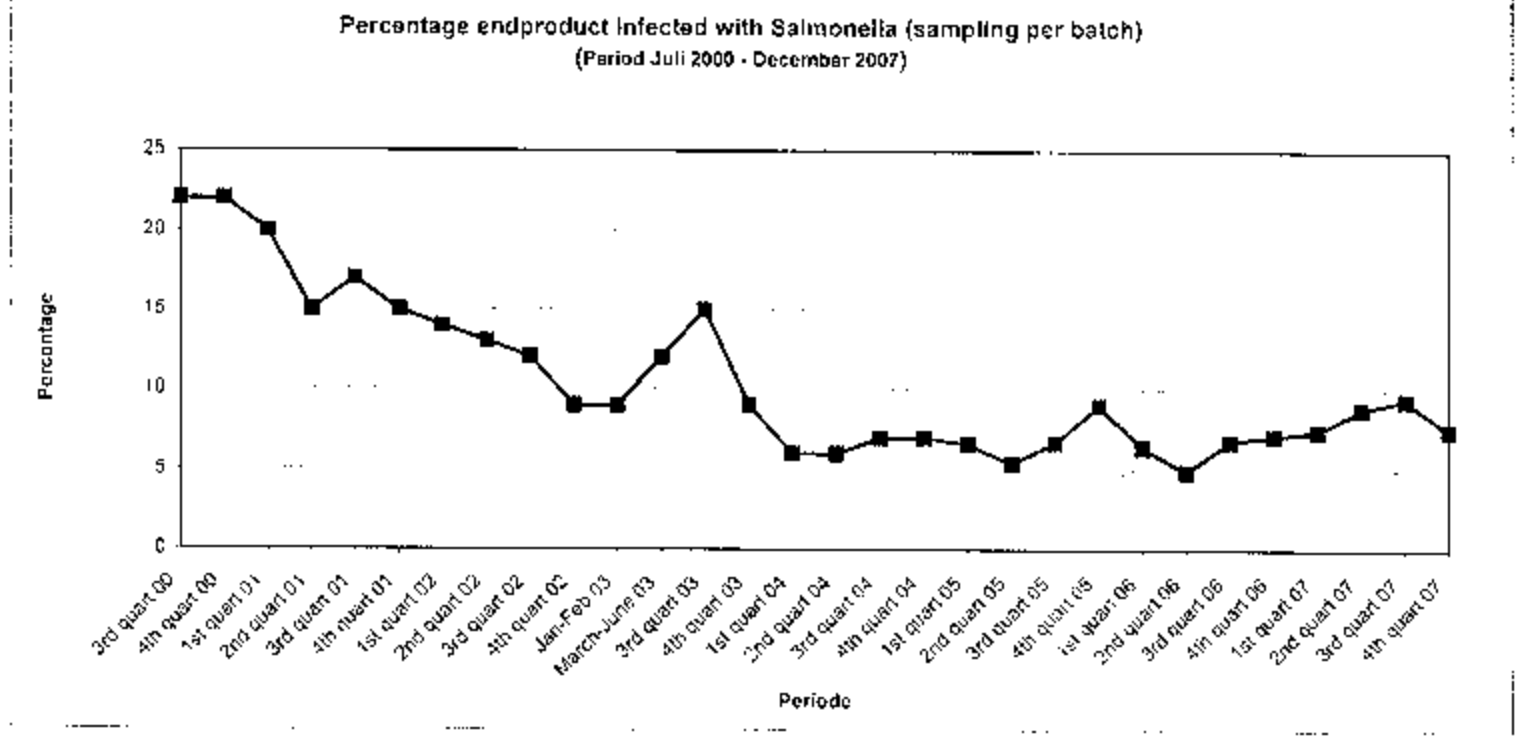
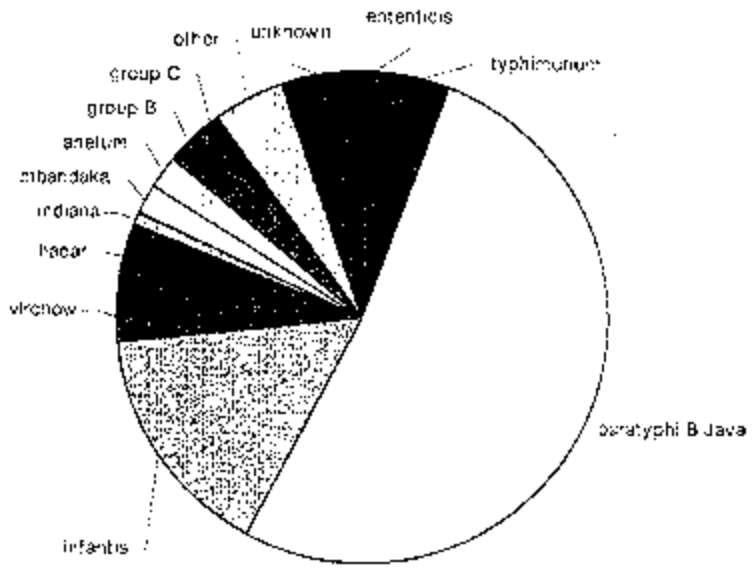


Figure 5: percentage end product infected with Salmonella spp. in the slaughterhouse (source PPE, 2008)

Table 2: Percentage end product infected with Salmonella spp. at the slaughterhouse (PVE, 2008)

Endproduct	Salmonella
4th quarter 2007	8%
3th quarter 2007	9%
2nd quarter 2007	9%
1st quarter 2007	7%
4th quarter 2006	7%
3th quarter 2006	7%
2nd quarter 2006	5%
1st quarter 2006	6%
4th quarter 2005	9%
3th quarter 2005	7%
2nd quarter 2005	5%
1st quarter 2005	7%
4th quarter 2004	7%
3th quarter 2004	7%
2nd quarter 2004	6%
1st quarter 2004	6%
4th quarter 2003	9%
3th quarter 2003	15%
March till June 2003	12%
Januari & Februari 2003	9%
4th quarter 2002	9%
3th quarter 2002	12%
2nd quarter 2002	13%
1st quarter 2002	14%
4th quarter 2001	15%
3th quarter 2001	17%
2nd quarter 2001	15%
1st quarter 2001	20%
4th quarter 2000	22%
3th quarter 2000	22%



Serotyping endproduct sampling Salmonella (4th quarter 2007)

Figure 6: Serotyping endproduct infected with Salmonella 4th quarter 2007 (PVE, 2008)

2.2 Egg production

In November 1997 a programme to control the prevalence of Salmonella in laying hens was started. The objective of the programme (called "Plan of Approach prevention and control of Salmonella in the egg industry 1999") was to reduce the SE and ST prevalence in flocks of laying hens to 5 percent or less by November 2000. This programme involved strict hygiene rules and the monitoring of Salmonella infections throughout the egg production chain. Because this objective was not reached, a new programme was introduced in the beginning of 2001. The target of this programme, called "Action Plan Salmonella in egg production 2001+" was to strive for a 0+ percent of contaminated eggs. In this stricter approach the eggs of contaminated flocks of laying hens are delivered to the egg product industry, for a special allowed treatment. The actions involved in both programmes were obligatory, pursuant to the legislation of the PPE.

To monitor the incidence of SE / ST infections in Dutch flocks of laying hens a blood sample of at least 0.5 percent (with a minimum of 24 and a maximum of 60 animals) of every flock were taken maximum 9 weeks before removal at end of lay. The test results were analyzed by the Animal Health Service and reported to the PPE. Figure 3 and Table 1 show the percentage of SE / ST infected layer hen flocks in the period from November 1997 until December 2006.

Over the period from February 1999 to December 2000 11.4 percent of the examined layer flocks tested SE / ST positive. After the introduction of the stricter programme "Action Plan Salmonella in egg production 2001+" the SE/ST-infection percentage, based on serological results, of layers decreased towards 5.8 in 2007. This might partly be due to the increased use of vaccines against SE of the layers.
For the Netherlands a SE/ST-infection percentage, based on bacteriological results, of 7.8 % was determined through a European study "Analysis of the baseline study on the prevalence of Salmonella in laying hen flocks of Gallus Gallus".
From 1st Februar 2008 EG 1168/2006 will be implemented in the Netherlands in the Action plan Salmonella in egg production 2001+.

In Table 3 and 4 prevalence of Se and St are shown for rearing layers and laying flocks for the period 1997 – 2007 in the Netherlands.

Table 3: SE and ST infections in layers at rearing age (1997 – 2007).

Year	SE (%)	ST (%)
2007	0.0	0.0
2006	0.0	0.1
2005	0.1	0.0
2004	0.5	0.3
2003	0.6	0.2
2002	0.7	0.1
2001	0.4	0.2
2000	0.2	0.2
1999	0.3	0.1
1998	0.4	0.0
1997	0.3	0.0

Table 4: SE and ST infections in layers, based on serological results 1997 – 2007 (source GD)

Year	Number of SE infected	% SE	ST infected	% ST

	flocks		infected		infected
2007	1870	109	5,8	0	0
2006	1878	85	4,5	6	0,3
2005	1952	64	3,3	3	0,2
2004	1500	101	6,7	3	0,2
2003	864	59	6,8	3	0,3
2002	1873	165	8,8	7	0,4
2001	1978	177	8,9	4	0,2
2000	2010	229	11,4	6	0,3
1999	1705	181	10,6	3	0,2
1998	1631	181	11,1	6	0,4
1997*	258	35	13,6	2	0,8

*Start of programme November 1997

3. DESCRIPTION OF THE SUBMITTED PROGRAMME

Target Veterinary Control Programme

The target for the reduction of Salmonella Enteritidis (SE) and Salmonella Typhimurium (ST) in broilers of Gallus gallus is a reduction of the maximum percentage of broilers remaining positive to 1 percent, or less by 31 December 2011.

Monitoring of the Veterinary Control Programme

A. Monitoring through the operator
The test frequency is laid down in the directives of the PPE. On day of arrival at least 40 pieces of box paper, per truck, are taken. From 21 days onwards, but at the maximum of 14 days before slaughter, samples are taken at the holding. The operator managing the broilers is responsible for the monitoring. During monitoring at least two pair of boot / sock swabs are taken per poultry house. All compartments of the poultry house are equally represented in the samples. It is ensured that all sections in a poultry house are represented in the sampling in a proportionate way. Each pair should cover about 50% of the area of the house.
On completion of sampling the boot / sock swabs are carefully removed so as not to dislodge adherent material. Boot swabs may be inverted to retain material. The overshoes are transported in a bottle or plastic bag with a label. For free range flocks of broilers samples shall only be collected in the area inside the house.

Before putting on the boot / sock swabs, their surface is 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. The use of farm water containing antimicrobials or additional disinfectants is prohibited.

Samples will send by (express) mail or courier to the acknowledged laboratory, within 25 hours after collection. At the laboratory samples will be kept refrigerated until examination, which is carried out within 48 hours following receipt. Samples are analyzed according to the MSRV-branchemethod, which is based on Annex D, ISO 6579. Each positive sample has to be analyzed to a serotype.

However, by way of derogation from point monitoring through the operator the competent authority can decide to sample at least one flock of broilers per round on holdings with several flocks if:
(i) an all in/all out system is used;
(ii) the same management applies to all flocks;
(iii) feed and water supply is common to all flocks;
(iv) during one year and at least six rounds, Salmonella spp were tested according to the monitoring scheme set out as above in all flocks on the holding and samples of all flocks of at least one round were taken by the competent authority; and
(v) all results from the testing for Se or St were negative.

B. Official sampling
Official sampling will be done at 10% of the farms by GD. This official sampling will be risked based. Risk in this case is defined as farms with false negative results in sampling done by the operator of the broiler farm.

To define this risk group, results of monitoring by the operator of the broiler farm are compared with monitoring results at the slaughterhouse. In the slaughterhouse intestine samples for monitoring at Salmonella are taken (see paragraph 3.3). In case of different outcome, results of operator of the broiler farm are negative and results of slaughterhouse are positive tested for Salmonella, twice in a row a year, official sampling is performed at the operator of this broiler farm.
When this risk group does not reach 10% of the total amount of broilers farms in the Netherlands a random selection will take place to fill up the group until 10%. Official sampling replaces monitoring by the operator.

Measures to be taken in case of Salmonella positive findings at the poultry house

Measures to be taken in case of positive findings in broilers are:
a) swab check executed by a by the PPE acknowledged company in the poultry house after cleaning and disinfection;
b) in case of a positive swab result the poultry house has to be cleaned and disinfected by a professional company after the next round;
c) tracing survey under supervision of a veterinarian;
d) in case of a Salmonella Java infection the farmer has to take some extra measures compared with an infection of another serotype. Especially when there are two or three Salmonella Java infections in a row. These extra measures are cleaning of the feeding system, keeping the poultry house empty for at least 10 days and take extra samples to monitor Salmonella.

Monitoring in slaughterhouse

When broilers enter the slaughterhouse they are monitored at Salmonella as well. From each flock 30 faecal samples of the small intestine are taken. Before the carcass leaves the slaughterhouse samples form each batch are taken from the skin (25 grams). At the cutting plant each day a sample is taken from filet, drumstick or wing, which is analysed at Salmonella as well. Each positive sample has to be analysed to a serotype.

Measures to be taken in case of Salmonella positive findings at the slaughterhouse

In case a flock of positive broilers arrive at the slaughterhouse, they have to be slaughtered logistic. This prevents Salmonella transmission between flocks in the slaughterhouse.
When a slaughterhouse reach more than 10 percent of Salmonella positive batches based on the skin samples in a period of three months, they have to compose an improvement plan.

3.6 Other bio-security regulations

Besides Salmonella monitoring and measurements in case of a positive sample other bio-security regulations are part of the "Action Plan Salmonella and Campylobacter in the Poultry meat sector 2000+".

The most important measurements are:
- Campylobacter monitoring programme, which is compulsory;

- Rodent control programme or hire an acknowledged rodent control company;
- Once a year a hygiene check by an by the PPE acknowledged company;
- Once a year bacteriological research and in case of a natural source of water also chemical research of drinking water for poultry;
- Specific hygiene measurements for each poultry house; hygiene barrier, hand-washing facility id.
- Specific Salmonella Java control programme.

4. MEASURES OF THE SUBMITTED PROGRAMME

4.1 Summary of measures under the programme

Duration of the programme:
The program runs since 1997. Official sampling is a new part of the programme and will start at 1st January 2009. The rest of the programme is ongoing, at least up to 31 December 2009.

First year:

- ☐ Control:
  - ☐ Testing
- ☐ Monitoring or surveillance
- ☐ Other measures:
  - ☐ Rodent control programme
  - ☐ Hygiene check
  - ☐ Bacteriological research water
  - ☐ Hygiene measurements
  - ☐ Salmonella Java control programme

Last year:

- ☐ Control:
  - ☐ Testing
- ☐ Monitoring or surveillance
- ☐ Other measures:
  - ☐ Rodent control programme
  - ☐ Hygiene check
  - ☐ Bacteriological research water
  - ☐ Hygiene measurements
  - ☐ Salmonella Java control programme

4.2 Designation of the central authority charged with supervising and coordinating the departments responsible for implementing the programme

In the Netherlands the Product Board for Livestock, Meat and Eggs executes the implementation of the programme. The Ministry of Agriculture, Nature and Food Quality are coordinating this implementation. In Figure 5, all organizations involved are mentioned, including their relation to the programme.

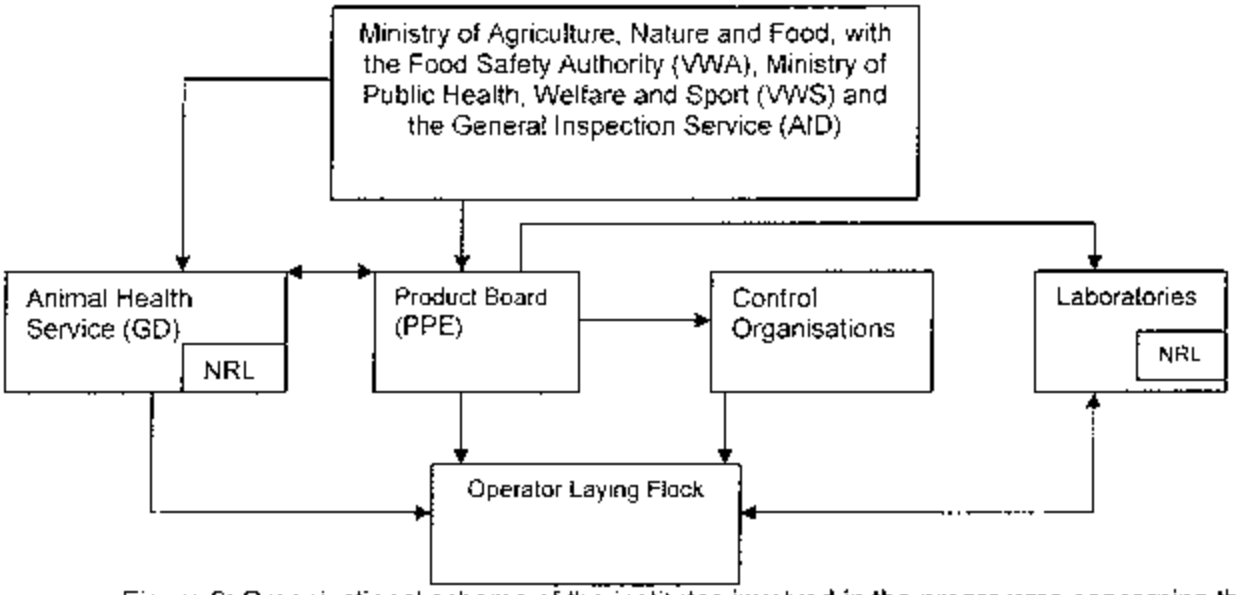


Figure 6: Organizational scheme of the institutes involved in the programme concerning the control of Salmonella in poultry

1. PPE
The Product Board for Poultry and Eggs (PPE) is a delegated authority. This is legally laid down in the following regulation by the Ministry of Agriculture, Nature and Food Quality: "Besluit bescherming tegen bepaalde zoönosen en bestrijding van besmettelijke dierziekten" and "Regeling preventie, bestrijding en monitoring van besmettelijke dierziekten en zoönosen en TSE's". The regulations concerning the Action Plans are formulated by the PPE and acknowledged by the ministry of Agriculture. The implementation of the programme is carried out by the PPE. The evaluation of the results is also the responsibility of the Product Board.

2 Animal Health Service (GD)
Concerning poultry, the main objective is to promote optimal health of poultry, particularly by preventing infectious diseases and the presence of microorganisms and residues that may be harmful to consumers. As a competent independent organization, GD occupies a central position in organized poultry health care. On the basis of (government) regulations or by government order, disease control programmes are realized. GD is acknowledged by the ministry of Agriculture, Nature and Food Quality to perform these tasks. Official sampling will be done by GD.

3. VWA and AID
The Food and Consumers Product Safety Authority (VWA) checks if GD and other laboratories perform according to the agreed work process. Both the VWA and the General Inspection Service (AID) are able to prosecute in specific cases when measures were not followed correctly (e.g. by laboratory or farmer).

4. Control organizations
The control organizations audit the procedures in the Action Plan and the sampling done by the operators. These control organizations must be independent and are acknowledged by the PPE.

5. Laboratories
In total 23 (private) laboratories are acknowledged by the PPE to perform analysis to determine the Salmonella status of samples taken concerning the Action plans. This is legally laid down in the PPE directive "Besluit erkenningsvoorwaarden en werkwijzen laboratoria (PPE) 2007". Every acknowledged laboratory has to participate in the ring-survey for the determination and serotyping of Salmonella that is performed by the RIVM (NRL) every twelve months. Positive test results for the relevant Salmonella serotypes are reported to the PPE.

6. NRL (RIVM, National Institute of Public Health and Environment)
The RIVM is the national reference laboratory for Salmonella. RIVM falls under the Ministry of Public Health, Welfare and Sport, and also undertakes commissions from other ministries such as the Ministry for Agriculture, Nature and Food Quality.
The RIVM organizes regular bacteriological ring surveys among laboratories, including GD, participating in the Dutch national programme for control of Salmonella in the poultry sector. Results of these ring surveys are reported to the PPE.

Structure of the production of feed

Directives for the production of feed are laid down in the "Kaderwet Diervoeders" by the Ministry of Agriculture, Nature and Food Quality. The Product board for Feed (PDV) is a delegated authority and publishes specific regulations on the production of feed. The most important regulations for the poultry sector are the "Verordening Monitoring Zoönosen en Zoönoseverwekkers Diervoedersector 2005" and the "Besluit PDV Salmonella in de diervoedersector 2005". In the latter one the monitoring are presented in the Dutch annual zoönoses report.

Next to these regulations there is also a quality assurance programme for feed. This is called Good Manufacturing / Managing Practice system. in short the GMP-system. Combined with the HACCP principles this quality assurance system is called GMP+. Almost all feed producers for the poultry chain are GMP+ certified. All IKB certified poultry farmers are obligated to use GMP+ certified food. IKB is a voluntary Dutch Integral Chain Control programme. The GMP+ standards include control measures for base materials, rules for additives, sampling scheme for zoönoses, hygiene and process criteria and compulsory regularly controls by an independent control organization.

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

Geographical limitations: The Netherlands.

4.4 Measures implemented under the programme

4.4.1 Measures and terms of legislation as regards the registration of the holding

All poultry farms and flocks are being registered by the PPE. Every farm receives a unique number. When a flock is being transferred from one farm to another the PPE must be informed. This is laid down in the directive 'Verordening productie van en handel in broedeieren en levend pluimvee (PPE)". All the information is stored in the "Koppel Informatiesysteem Pluimvee (KIP-system)". This so called KIP-system is also the base for the registration in according to the EC directive 852/2004.

4.4.2 Measures and terms of 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

Farmer has to notify the slaughterhouse about the result of faecal sampling In case of positive finding slaughterhouse has to slaughter the flock at the end of the day (logistic slaughtering). Also every slaughterhouse has to sent every month an overview of results of Salmonella sampling (positive and negative) at the slaughterhouse, at the broiler flock and at the hatchery to PPE. This is laid down in directives of PPE.

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

The measures that have to be taken in case of a positive result are laid down in directives of the PPE. The Ministry of Agriculture, Nature and Food Quality and Ministry of Public Health, Welfare and Sport have to approve these directives. All measures are stated in Chapter 3.

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

Not applicable for poultry.

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

When birds from infected flocks are slaughtered or destroyed, steps are taken to reduce the risk of spreading zoonoses as far as possible. Slaughtering will be carried out in accordance with Community legislation on food hygiene. If not destined for human consumption, such products must be used or disposed of in accordance with Regulation (EC) No 1774/2002.

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

Sampling and testing is carried out according to the provisions laid down in Commission Regulation 646/2007 annex 3.
The tests that are performed in the Action Plan are:
PVE branch method for Salmonella analysis: this method includes the use of Modified Semi solid Rapport Vassiliadis agar (MSRV) as a selective enrichment medium. The semi solid medium should be incubated at 41.5 °C +/- 1 °C for 48 h. Alternative methods for detection will be permitted (for example Salmonella analysis by PCR), according to the provisions laid down in Commission Regulation 646/2007 (Annex point 3.4) In case of a positive finding, serotyping is performed according to the Kaufmann-White scheme.

At least one isolated strain per house and per year shall be collected by the competent authority and stored for future phagetyping or anti-microbial susceptibility testing, using normal methods for culture collection, which must ensure integrity of the strains for minimum of two years.

Antimicrobials
The use of antimicrobials is prohibited except for circumstances laid down in 1177/2006/EC, Article 2.

Financial contribution
The financial contribution for the farmer and the measures to be taken to receive the contribution will be specified in legislation of the PPE "Verordening Subsidieverlening terugdringing Salmonella in de pluimveesector". At the moment in this legislation there are no possibilities for financial contribution for broiler flocks.

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

Not applicable

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

Besides the control programme for Salmonella, each flock will be checked once through a veterinarian, in accordance to the GVP-code (Good Veterinarian Practice).

Every holding is obligated to inform the slaughterhouse where the broilers are transferred, about the Salmonella status. This is laid down in the directive "Verordening Hygiënevoorschriften Pluimveehouderij (PPE)". In according to 852/2004 and 853/2004 Guides for Good Practices are being developed for the poultry sector. In these guides HACCP principles and traceability measures are implemented. The guides for poultry farms are based on the quality system IKB. This quality assurance system for the whole poultry chain is developed in the Netherlands by the PPE. More then 95% of the poultry farms are certified for IKB. IKB standards include hygiene management at farms, measures to prevent incoming infections and the hygienic transportation of animals. (See paragraph 3.6)

5. GENERAL DESCRIPTION OF THE COSTS AND BENEFITS

5.1. Human salmonellosis

The incidence of human salmonellosis health, is outlined in the graph below:

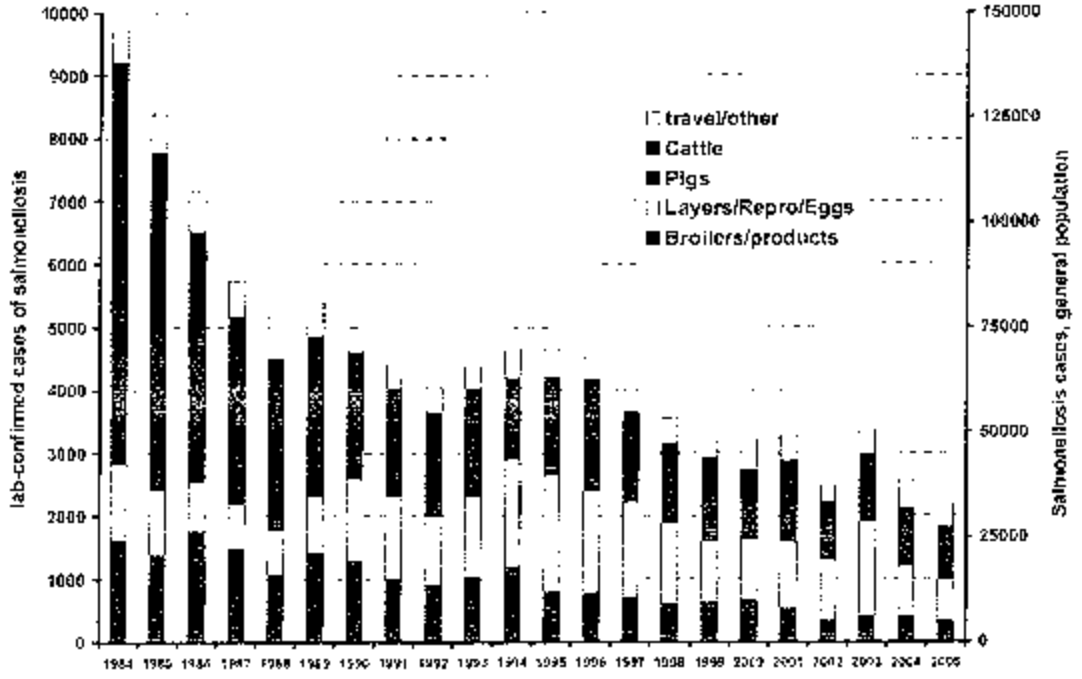


Figure 7: Occurrence of human cases of Salmonellosis

Detailed cost benefits data are not available.

6. DATA ON THE EPIDEMIOLOGICAL EVOLUTION DURING THE LAST FIVE YEARS

6.1 Evolution of the disease

6.1.2 Data on evolution of zoonotic salmonellosis

Year: 2002 - 2007
Situation on date: April 2008
Disease: Salmonella
Animal species: Poultry
Region: NL

Table 5: Number of positive flocks 2002-2007

Year	Type of flock	Total number of flocks	Total number of animals	Total number of flocks under the programme	Total number of animals under the programme	Number of flocks checked	Number of positive flocks		Number of flocks depopulated		Total number of animals slaughtered or destroyed	
							Se	St	Se / St	Other	Se / St	Other
2002	-											
2003	-											
2004	-											
2005	broilers	7.195	350.752.093	7.195	350.752.093	7.195	50	39	-	-	-	-
2006	broilers	6.486	335.619.964	6.486	335.619.964	6.486	24	18	-	-	-	-
2007	broilers	6.705	350.582.589	6.705	350.582.589	6.705	5	21	-	-	-	-

6.2 Stratified data on surveillance and laboratory tests
From 1-1-2009 on all flocks will be tested bacteriologically.

6.3 Data on infection
Not applicable.

6.4 Date on vaccination programmes
Not applicable.

7. TARGETS

7.1 Targets related to testing

7.1.1 Targets on diagnostic tests

Not applicable.

7.1.2 Targets on testing of flocks

Year: 2009
Situation on date: 2007
Animal Species: Poultry
Disease: Salmonella
Region: NL

Table 6: Targets on testing of flocks

Type of flock		**Broilers**
Total number of flocks		6.705
Total number of animals		350 582.589
Total number of flocks under the programme		6.705
Expected number of flocks to be checked		6.705
Number of flocks expected to be positive	**SE**	5
	ST	21
	Other	175
Number of flocks expected to be depopulated	**SE or ST**	0
	Other	0
Total number of animals expected to be slaughtered or destroyed (number or kg)	**SE or ST**	0
	Other	0

7.2 Targets on vaccination

Not applicable.

8. DETAILED ANALYSIS OF THE COST OF THE PROGRAMME

Table 7: Detailed analysis of the costs estimate of the programme for 2009

Costs related to	Specification 1	Specification 2	Calculation	Number of units	Unitary cost in Euro	Total amount in Euro	Community funding requested within Sal. Control Programme for Broilers (yes/no)
1. Testing							
1.1 Costs of analysis							
(costs of analysis on initiative of food business operator)	*Broilers*						
	Stock incoming	Box paper	6.705	6.705	18,39	123.305	Yes
	Stock outgoing	Faecal	4.962 *2.6	12.901	18,39	237.249	Yes
Costs of official analysis	Stock outgoing	Faecal	1.743*2.6	4.532	18,39	83.343	Yes
1.2 Costs of sampling							
(costs of official sampling)	*Broilers:*						
	Stock outgoing	Faecal	1.743	1.743	104	181.303	Yes
1.3 Other costs							
Animal Feed Treatment							
	Broilers		350.582 589	350.582.589	0,0016	560.932	No
					Subtotal 1	**625.201**	

2. Vaccination or treatment			X	X	X	X	X
3. Slaughter and destruction							
3.1. Compensation of animals			X	X	X	X	X
3.2 Transport costs			X	X	X	X	X
3.3 Destruction costs			X	X	X	X	X
3.4 Loss in case of slaughtering			X	X	X	X	X
3.5 Costs of treatment of products			X	X	X	X	X
4. Cleaning and disinfection							
	Broiler		350.582.589*6%	21.034.955	0,033	694.154	Yes
	Slaughterhouse		320.000.000*6%	19.200.000	0,0045	86.400	No
					Subtotal 2	**694.154**	
5. Salaries			X	X	X	X	X
6. Consumables and specific equipment			X	X	X	X	X
7. Other costs							
	Slaughterhouse						
	Logistic slaughter		320.000.000*6%	19.200.000	0.00181	34 752	No
	Broilers						
	Bio-security	rodent control		670	500	335.000	Yes
		Hygiene check		670	115	77.050	Yes
		water research (chemical and bacteriological)		670	40	26.800	Yes
		cleaning and disinfection		350.582.589	0,033	11.569.225	Yes
	Positive finding	swab sample after cleaning and disinfection	6%(6.705*2.6)	1.046	18,39	19.236	Yes
					Subtotal 3	**12.027.311**	

TOTAL COSTS REQUESTED FOR REFUNDING IN 2009 FOR BROILER FLOCKS

Testing	(subtotal 1)	€ 625.201
Cleaning and disinfection	(subtotal 2)	€ 694.154
Other costs	(subtotal 3)	€ 12.027.311
	Total	€ 13.346.666

PROPOSED
VETERINARY CONTROL PROGRAMME
FOR
SALMONELLA IN LAYING HEN FLOCKS
PRESENTED FOR 2009*
BY
THE NETHERLANDS

*In accordance with Regulation 2160/2003 and 1168/2006

INDEX

1. IDENTIFICATION OF THE PROGRAMME

Member state:	The Netherlands
Disease:	Infection of animals with zoonotic Salmonella spp
Year of implementation:	1-2-2008 until 31-01-2011
Reference of this document:	Final version
Geographical Area:	The Netherlands
Contact:	J.N. (Hans) Schouwenburg Product Board for Poultry and Eggs, PPE Phone: 0031(0)79 368 7937 Fax: 0031(0)79 363 4345 E-mail: j.n.schouwenburg@pve.agro.nl

Date sent to the commission: 30-04-2008

2. HISTORICAL DATA ON THE EPIDEMIOLOGICAL EVOLUTION OF ZOONOTIC SALMONELLOSIS

The Netherlands has two programmes to control the prevalence of Salmonella, one for egg production chain (the basis for this programme) and one for the poultry meat chain. In this Chapter these two programmes are mentioned together with the infection percentages in the egg production chain and the poultry meat chain.

Egg production

In November 1997 a programme to control the prevalence of Salmonella in laying hens was started. The objective of the programme (called "Plan of Approach prevention and control of Salmonella in the egg industry 1999") was to reduce the SE and ST prevalence in flocks of laying hens to 5 percent or less by November 2000. This programme involved strict hygiene rules and the monitoring of Salmonella infections throughout the egg production chain. Because this objective was not reached a new programme was introduced in the beginning of 2001. The target of this programme, called "Action Plan Salmonella in egg production 2001+" was to strive for a 0+ percent of contaminated eggs. In this stricter approach the eggs of contaminated flocks of laying hens are delivered to the egg product industry, for a special allowed treatment. The actions involved in both programmes were obligatory, pursuant to the legislation of the PPE.

To monitor the incidence of SE / ST infections in Dutch flocks of laying hens a blood sample of at least 0.5 percent (with a minimum of 24 and a maximum of 60 animals) of every flock were taken maximum 9 weeks before removal at end of lay. The test results were analysed by the Animal Health Service and reported to the PPE. Figure 1 and Table 1 show the percentage of SE / ST infected layer hen flocks in the period from November 1997 until December 2006.

Over the period from February 1999 to December 2000 11,4 percent of the examined layer flocks tested SE / ST positive. After the introduction of the stricter programme "Action Plan Salmonella in egg production 2001+" the SE/ST-infection percentage, based on serological results, of layers decreased towards 5.8 in 2007. This might partly be due to the increased use of vaccines against SE of the layers.
For the Netherlands a SE/ST-infection percentage, based on bacteriological results, of 7.8 was determined through a European study "Analysis of the baseline study on the prevalence of Salmonella in laying hen flocks of Gallus gallus". This percentage is the starting-point for this programme "Veterinary control programme for salmonella in laying flocks". The above-mentioned differences in infection percentage are mainly due to differences in monitoring.

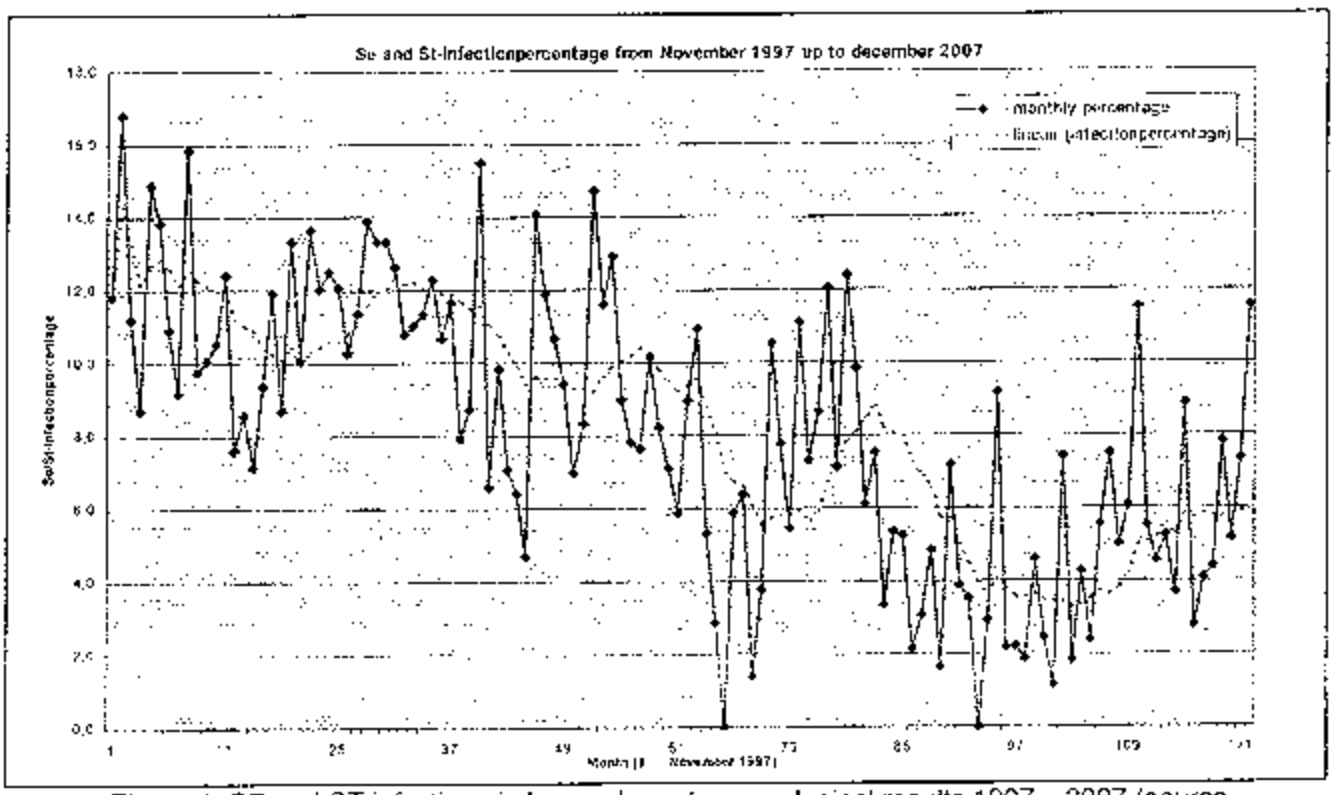


Figure 1: SE and ST infections in layers, based on serological results 1997 – 2007 (source PVE)

Table 1: SE and ST infections in layers, based on serological results 1997 – 2007 (source PVE)

Year	Number of flocks	SE infected	% SE infected	ST infected	% ST infected
1997*	258	35	13.6	2	0,8
1998	1631	181	11.1	6	0,4
1999	1705	181	10,6	3	0,2
2000	2010	229	11,4	6	0,3
2001	1978	177	8,9	4	0,2
2002	1873	165	8,8	7	0,4
2003	864	59	6,8	3	0,3
2004	1500	101	6,7	3	0,2
2005	1952	64	3,3	3	0,2
2006	1878	85	4,5	6	0,3
2007	1870	109	5,8	0	0

*Start of programme November 1997

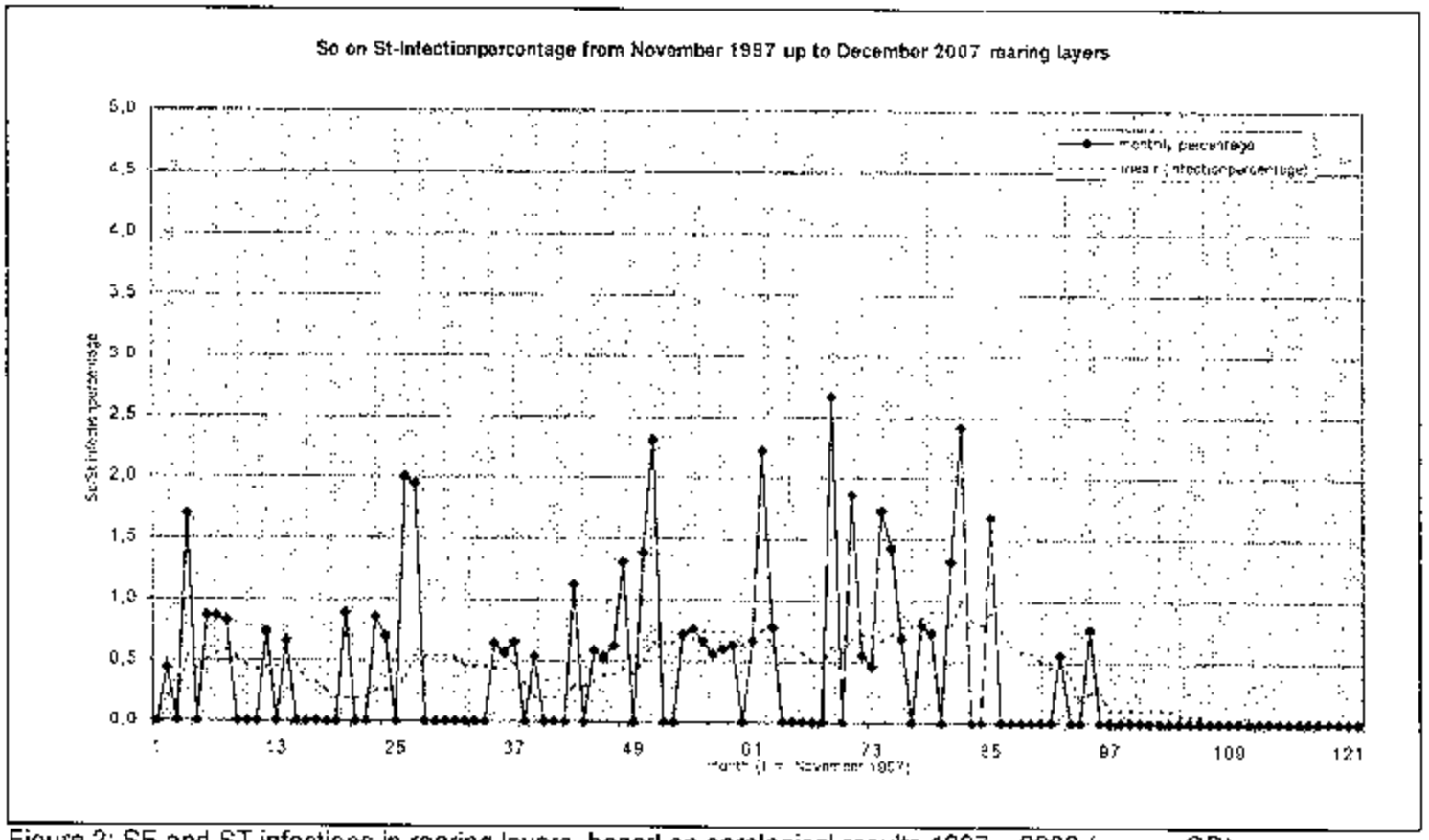


Figure 2: SE and ST infections in rearing layers, based on serological results 1997 – 2006 (source GD)

Poultry meat

In May 1997 a programme to control the prevalence of Salmonella in poultry was started. The programme (called: "Plan of Approach Salmonella and Campylobacter in the Poultry meat sector 1997") that was designed involved strict hygiene rules and the monitoring of Salmonella infections throughout the poultry meat production chain. The plan was introduced with the aim to decrease the number of Salmonella infections (in slaughtered broilers) to less then 10 % by the year 2000. The actions involved in the Plan were obligatory, pursuant to the legislation of the PPE.

The effects of the programme were evaluated in January 2000. The monitoring results showed a reduction of the percentage of Salmonella infected broilers after slaughter. In the fourth quarter of 1999 16 % of the slaughtered broilers were infected with Salmonella, which meant that the initial aim was not achieved. This result led to the formulation of a stricter programme (called: "Action Plan Salmonella and Campylobacter in the Poultry meat sector 2000+"). In this programme the Dutch industry aims for an elimination of all Salmonella serotypes in poultry meat. This means that this target is beyond of the Zoonoses Directive (2003/2160 EG), since this directive only aims on serotypes with public health significance. Again, the actions involved are obligatory.

One of the objects of the current programme is to monitor the prevalence of Salmonella infections in all links of the production chain. In Figure 3 the monitoring results are presented from the 1st quarter of 2000 until the 4th quarter of 2007. In this figure:

1. Fluff; is the percentage of Salmonella positive fluff-samples taken from the hatcheries at the end of the hatching process.
2. Boxpaper; is the percentage of Salmonella positive samples taken from the day-old chicken box paper at the broiler farms.
3. S-faeces; is the percentage of Salmonella positive faecal samples taken at the broiler farms.
4. S-intestine; is the percentage of Salmonella positive intestine samples taken at the slaughterhouse.

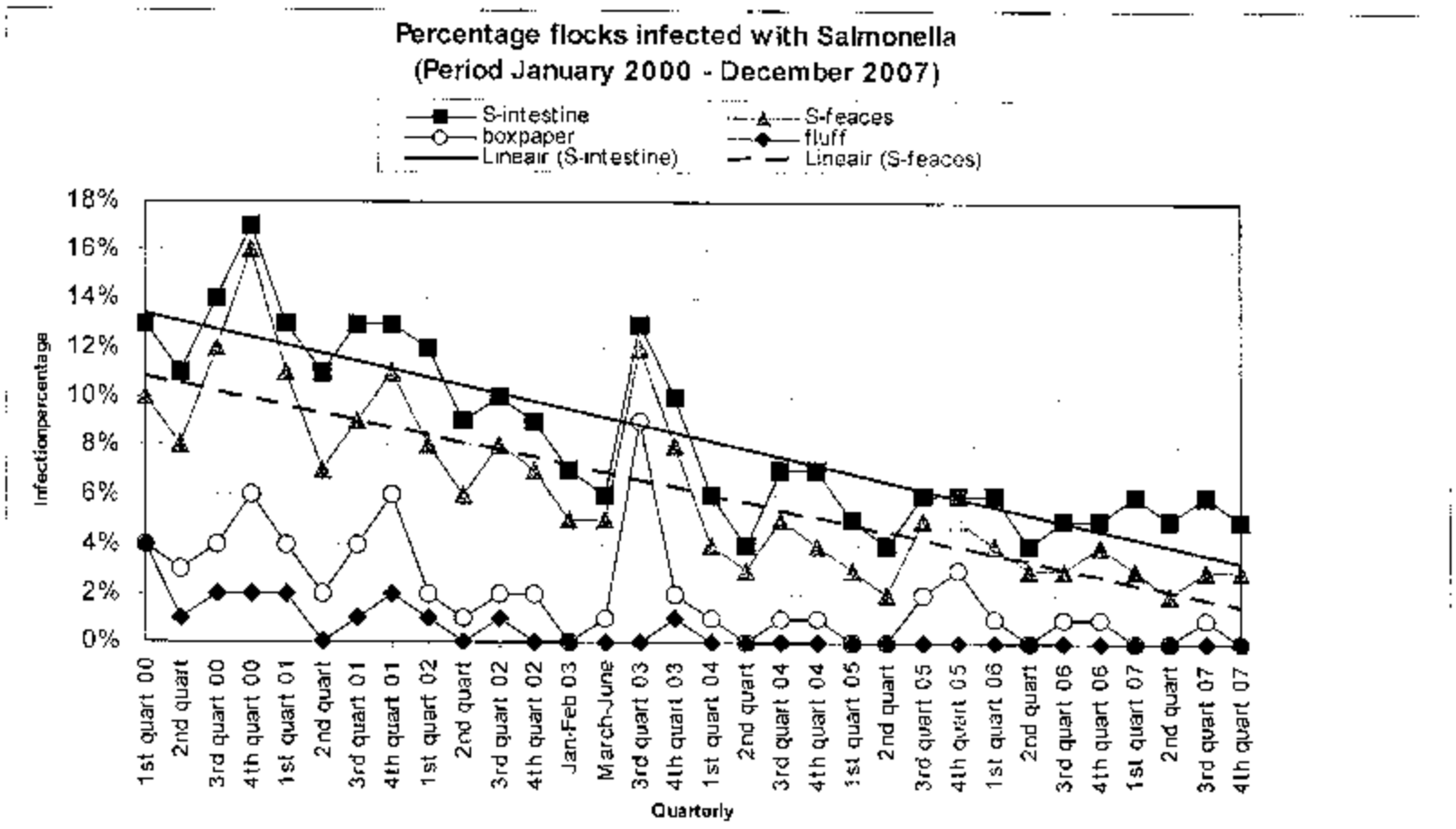


Figure 3: Percentages of Salmonella spp. positive samples taken from different links of the production chain per quarter (source PPE, 2008).

In the next figure the infection percentages in the slaughterhouses is shown.

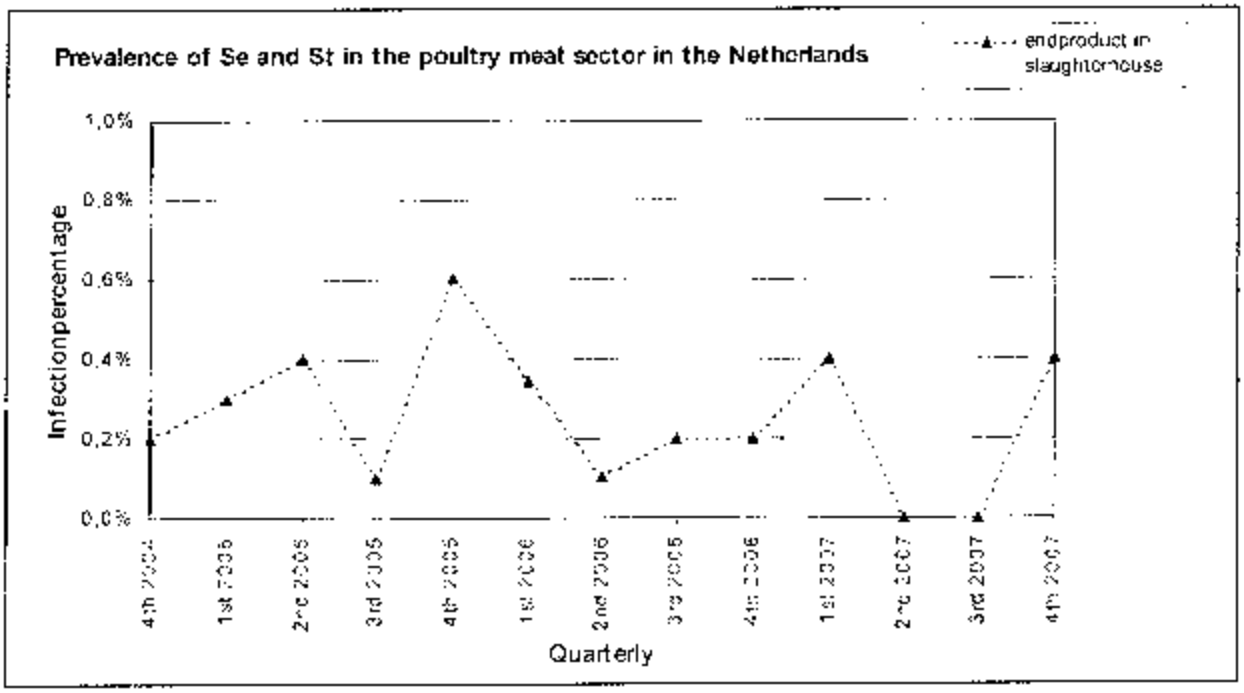


Figure 4: Prevalence of Se en St at end product in the poultry meat sector at the slaughterhouse in the Netherlands for the period 4th quarter 2004 till 4th quarter 2007

3. DESCRIPTION OF THE SUBMITTED PROGRAMME

Target Veterinary Control Programme

The target for the reduction of SE and ST in laying flocks of Gallus gallus is a reduction of the maximum percentage of positive flocks with 10 percent each year or a reduction of the maximum percentage to 2 percent or less. In accordance with regulation 1168/2006/EC the scope of this programme is limited to the laying hen flocks. Starting-point is an infection percentage of 7.8 in 2006.

Monitoring of the Veterinary Control Programme

In Table 2 a short overview of the monitoring programme in rearing layers and laying hens is given. In paragraph 3.2.1 and 3.2.2 the monitoring programme is drawn out.

Table 2: Monitoring in rearing layers and laying hen flocks

Part of the production chain	Monitoring
Rearing layers	Max. 14 days before transfer: blood samples (0.5% of the animals in a flock with a min. of 24 and a max. of 60 samples).
Laying hens	Every 15 weeks (as of the age of 24 weeks +/- 2 weeks): samples of faecal material.

3.2.1 Laying flocks

A. Monitoring through the operator

The test frequency is laid down in the directives of the PPE. Monitoring in laying hen flocks is being done each 15 weeks as of the age of 24 weeks +/- 2 weeks. The monitoring takes place at the holding. The operator managing the laying hen flock is responsible for the monitoring. When a positive sample is found, a verification test will take place at the holding. The verification test is done by the veterinarian and guarantees quality and independency. When verification is negative the flock is not considered to be infected with Salmonella.

During monitoring samples are taken from faecal material, according to the following protocol:

a) In cage flocks, 2 x 150 grams of naturally pooled faeces shall be taken from all belts or scrapers in the house after running the manure removal system; however, in the case of step cage houses without scrapers or belts 2 x 150 grams of mixed fresh faeces must be collected from 60 different places beneath the cages in the dropping pits.
b) In barn or free-range houses, two pairs of boot swabs or socks are taken, without changing over boots between boot swabs.

B. Official sampling

Every year an official sampling is being done at the holdings, which shall replace on that occasion the corresponding sampling at initiative of the operator. Official sampling is being done:

a) In one flock per year per holding comprising at least 1.000 birds;
b) At the age of 24 +/- 2 weeks in laying flocks housed in buildings where Salmonella was detected in the preceding flock;
c) In any case of suspicion of SE or ST infection, as a result of the epidemiological investigation of food-borne outbreaks in accordance with Article 8 of Directive 2003/99/EC of the European Parliament and of the Council.
d) In all other laying flocks on the holding in case SE or ST are detected in one laying flock on the holding;
e) In cases where the competent authority considers it appropriate.

When a positive sample is found, a verification test will take place at the holding. GD (Animal Health Service) is executing both official sampling and the verification tests.

In the case of sampling by the competent authority, 250 ml containing at least 100 gram of dust shall be collected from prolific sources of dust throughout the house. If there is not sufficient dust, an additional sample of 150 grams naturally pooled faeces or an additional pair of boot swabs or sock shall be taken.

In the case of sampling referred to in point b, c or d mentioned above, the competent authority shall satisfy itself by conduction further tests as appropriate that the results of examinations for salmonella in birds are not affected by the use of antimicrobials in the flocks. Where the presence of SE and ST is not detected but antimicrobials or bacterial growth inhibitory effect is it shall be accounted for as an infected laying flock.

3.2.2 Rearing layers

In "Verordening Hygiëne Voorschriften Pluimveehouderij 2007" regulations of monitoring the incidence of SE / ST are stated. These regulations are ongoing.
Day-old chicks are monitored in the hatchery according to PPE directive 'Hygiënebesluit kuikenbroederijen legsector'. To monitor the incidence of SE / ST infections in Dutch pullets a blood sample of at least 0.5 percent (with a minimum of 24 and a maximum of 60 animals) of every flock is taken maximum 14days before moving to laying phase or laying unit. The test results are analysed by Animal Health Service and reported to the PPE. When a positive sample is found, GD will do a verification test at the holding.

3.3 Measures to be taken in case of Salmonella positive findings

3.3.1 Laying hens

Measures to be taken in case of SE / ST positive findings in laying hen flocks are:
a) verification in case of suspicion according to the provisions laid down in Commission Regulation 1237/2007 (annex I);

After verification with a positive result:
b) after professional cleaning and disinfection a swab test of the poultry house must be done, executed by a by the PPE acknowledged company;
c) vaccination of all new flocks placed in the holding, until all flocks in the holding are vaccinated.

When eggs originate from a SE/ST suspected or infected flock or from flocks with an unknown health status they can be used for human consumption if treated in a manner that guarantees the elimination of all salmonella serotypes with public health significance, in accordance with Community legislation.

Suspicion= positive result after first test
Infection= positive result after verification test
In case of a SE/ST-positive flock of up to 28 weeks of age, the flock can be eradicated
If a SE/ST-positive flock is over 28 weeks of age then the flock will stay in the programme and will be monitored according to the programme (every 15 weeks).

3.3.2 Rearing layers

Measures to be taken in case of SE / ST positive findings in rearing layers.
a) verification in case of suspicion;

b) After verification with a positive result: the flock can be eradicated and additional measures will be taken according to PPE directive "Hygiënebesluit opfokleghennenbedrijven 2007".

3.4 Measures in Action Plan Salmonella in egg production 2001+

Components of current Action Plan Salmonella in egg production 2001+:
a) hygiene measurements;
b) cleaning and disinfection;
c) sampling;
d) exchange sampling results throughout the chain;
e) measures taken in case of Salmonella infection.

3.5 Additional measures if target Veterinary Control Programme is not met

If the target of the programme is not met after one year, compulsory vaccination of all laying hen flocks, as an additional measure will be considered

4 MEASURES OF THE SUBMITTED PROGRAMME

4.1 Summary of measures under the programme

Duration of the programme:
The programme from 1 February 2008 till 1 January 2011. The Veterinary Control Programme has been adjusted due to the requirements laid down in regulation 1168 / 2006 / EC of the Commission.

First year (2008):

- Control:
  - Testing
  - Killing of animals tested positive
  - Vaccination (voluntary)
  - Treatment of animal products
- Monitoring or surveillance
- Other measures:
  - Hygiene measurements
  - Cleaning and disinfecion
  - Sampling
  - Exchange sampling results throughout the chain
  - Measures taken in case of Salmonella infections

Last year (2010):

- Control:
  - Testing
  - Killing of animals tested positive
  - Vaccination (voluntary)
  - Treatment of animal products
- Monitoring or surveillance
- Other measures:
  - Hygiene measurements
  - Cleaning and disinfection
  - Sampling
  - Exchange sampling results throughout the chain
  - Measures taken in case of Salmonella infections

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

In the Netherlands the Product Board for Livestock, Meat and Eggs executes the implementation of the programme. The Ministry of Agriculture, Nature and Food Quality is the central authority and supervising this implementation. In Figure 5, all organisations involved are mentioned, including their relation to the programme.

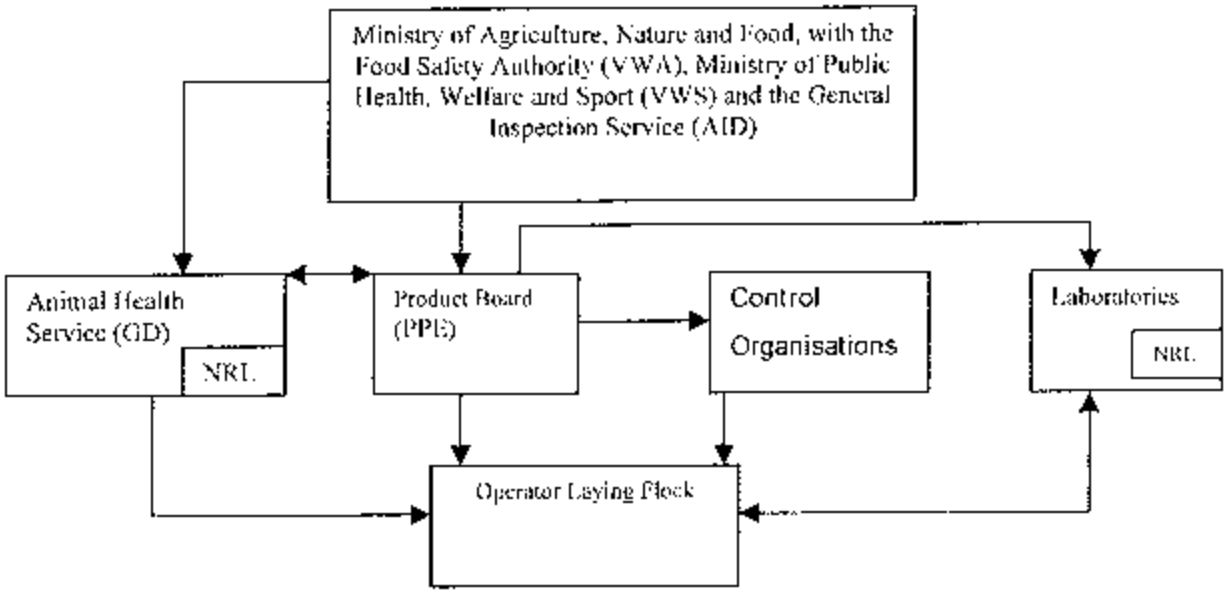


Figure 5: Organisational scheme of the institutes involved in the programme concerning the control of Salmonella in poultry

1. PPE
The Product Board for Poultry and Eggs (PPE) is a delegated authority. This is legally laid down in the following regulation by the Ministry of Agriculture, Nature and Food Quality: "Besluit bescherming tegen bepaalde zoönosen en bestrijding van besmettelijke dierziekten" and "Regeling preventie, bestrijding en monitoring van besmettelijke dierziekten en zoönosen en TSE's". The regulations concerning the Action Plans are formulated by the PPE and acknowledged by the ministry of Agriculture. The implementation of the programme is carried out by the PPE. The evaluation of the results is also the responsibility of the Product Board.

2. Animal Health Service (GD)
Concerning poultry, the main objective is to promote optimal health of poultry, particularly by preventing infectious diseases and the presence of microorganisms and residues that may be harmful to consumers. As a competent independent organisation, GD occupies a central position in organised poultry health care. On the basis of (government) regulations or by government order, disease control programmes are realised. GD is acknowledged by the ministry of Agriculture, Nature and Food Quality to perform these tasks.

GD is responsible for the official sampling, analysis and verification of salmonella infections in the poultry laying flock populations. Positive test results for the relevant Salmonella serotypes are reported to the PPE.

3. VWA and AID
The Food and Consumers Product Safety Authority (VWA) checks if GD and other laboratories perform according to the agreed work process. Both the VWA and the General Inspection Service (AID) are able to prosecute in specific cases when measures were not followed correctly (e.g. by laboratory or farmer).

4. Control organisations
The control organisations audit the procedures in the Action Plan and the sampling done by the operators. These control organisations must be independent and are acknowledged by the PPE.

5. Laboratories
In total 23 (private) laboratories are acknowledged by the PPE to perform analysis to determine the Salmonella status of samples taken concerning the Action plans. This is legally laid down in the PPE directive "Besluit erkenning laboratoria". Every acknowledged laboratory has to participate in the ring-survey for the determination and serotyping of Salmonella that is performed by the RIVM (NRL) every twelve months. Positive test results for the relevant Salmonella serotypes are reported to the PPE.

6. NRL (RIVM, National Institute of Public Health and Environment)
The RIVM is the national reference laboratory for Salmonella. RIVM falls under the Ministry of Public Health, Welfare and Sport (VWS), and also undertakes commissions from other ministries such as the Ministry for Agriculture, Nature and Food Quality.
The RIVM organises regular bacteriological ring surveys among laboratories, including GD, participating in the Dutch national programme for control of Salmonella in the poultry sector. Results of these ring surveys are reported to the PPE.

Structure of the production of feed
Directives for the production of feed are laid down in the 'Kaderwet Diervoeders" by the Ministry of Agriculture, Nature and Food Quality. The Product board for Feed (PDV) is a delegated authority and publishes specific regulations on the production of feed. The most important regulations for the poultry sector are the "Verordening Monitoring Zoönosen en Zoönoseverwekkers Diervoedersector 2005" and the "Besluit PDV Salmonella in de

diervoedersector 2005". In the latter one the monitoring are presented in the Dutch annual zoönoses report.

Next to these regulations there is also a quality assurance program for feed. This is called Good Manufacturing / Managing Practice system, in short the GMP-system. Combined with the HACCP principles this quality assurance system is called GMP+. Almost all feed producers for the poultry chain are GMP+ certified. All IKB certified poultry farmers are obligated to use GMP+ certified food. The GMP+ standards include control measures for base materials, rules for additives, sampling scheme for zoönoses, hygiene and process criteria and compulsory regularly controls by an independent control organisation.

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

Geographical limitations: The Netherlands.

4.4 Measures implemented under the programme

4.4.1 Measures and terms of legislation as regards the registration of the holding

All poultry farms and flocks are being registered by the PPE. Every farm receives a unique number. When a flock is being transferred from one farm to another the PPE must be informed. This is laid down in the directive 'Verordening productie van en handel in broedeieren en levend pluimvee (PPE)". All the information is stored in the "Koppel Informatiesysteem Pluimvee (KIP-system)". This so called KIP-system is also the base for the registration in according to the EC directive 852/2004.

4.4.2 Measures and terms of legislation as regards the identification of animals

Not applicable for poultry.

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

In case of a SE and ST infection the laboratory that signalises the first indication / suspicion has to inform GD (Animal Health Service) and the farmer. After this a verification study will take place. When the infection is confirmed the PPE and the farmer are informed.

Each veterinarian has the obligation to notify Salmonella to the GD. This is specified in legislation of the Ministry of Agriculture, Nature and Food Quality, "Regeling preventie, bestrijding en monitoring van besmettelijke dierziekten en zoönosen en TSE's". Directives of the PPE state that the farmer has to notify Salmonella. In most cases the veterinarian will do this for the farmer.

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

The measures that have to be taken in case of a positive result are laid down in Commission Regulation 1237/2007 (Annex 1) and in directives of the PPE. The Ministry of Agriculture, Nature and Food Quality and Ministry of Public Health, Welfare and Sport (VWS) have to approve these directives. All measures are stated in Chapter 3.

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

Not applicable for poultry.

4.4.6 Control procedures and in particular rules on the movement of animals liable to be contaminated with Salmonella

When birds from infected flocks are slaughtered or destroyed, steps are taken to reduce the risk of spreading zoonoses as far as possible. Slaughtering will be carried out in accordance with Community legislation on food hygiene. If not destined for human consumption, such products must be used or disposed of in accordance with Regulation (EC) No 1774/2002.

4.4.7 Measures and applicable legislation as regards control (testing, vaccination) of Salmonella

Testing is carried out according to the provisions laid down in Commission Regulation 1168/2006 (Annex 3.2-3.4)
The tests that are performed in the Action Plan are:
PVE branch method for Salmonella analysis: this method includes the use of Modified Semi solid Rapport Vassiliadis agar (MSRV) as a selective enrichment medium. The semi solid medium should be incubated at 41.5 °C +/- 1 °C for 48 h. Alternative methods for detection will be permitted (for example Salmonella analysis by PCR) according to the provisions laid down in Commission Regulation 1168/2006 (Annex point 3.4).
In case of a positive finding, serotyping is performed according to the Kaufmann-White scheme.

In the Netherlands parts of the parent rearing flock are vaccinated. On this moment there is no central database with information on the number of vaccinated flocks. In the layer production sector Salmonella vaccines are used for parent rearing flocks and rearing layer flocks. Estimated is that almost all the rearing parent flocks and over 80% of the rearing layers are vaccinated.
The vaccines that commonly used are:
1. Parent rearing flocks: Salenvac T, SG9R
2. Rearing layers: SG9R (Intervet), Vac E (TAD, Lohmann) and in the future Gallivac (Merial).

Antimicrobials
The use of antimicrobials is prohibited except for circumstances laid down in 1177/2006/EC, Article 2.

Financial contribution
The financial contribution for the farmer and the measures to be taken to receive the contribution will be specified in legislation of the PPE "Verordening Subsidieverlening terugdringing Salmonella".

4.4.8 Measures and applicable legislation as regards the compensation for owners of canalized eggs

Depending on the content of the appropriate EU regulations compensation will be given for eradication of laying hens, vaccination of laying flocks, sampling (standard, official and verification) and canalization of eggs.

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

Besides the control programme for Salmonella, each flock will be checked once through a veterinarian, in accordance to the GVP-code (Good Veterinarian Practice).

Every holding is obligated to inform the holding where the eggs are transferred, about the Salmonella status. This is laid down in the directive "Verordening Hygiënevoorschriften Pluimveehouderij (PPE)". In according to 852/2004 and 853/2004 Guides for Good Practices are

being developed for the poultry sector. In these guides HACCP principles and traceability measures are implemented. The guides for poultry farms are based on the quality system IKB. This quality assurance system for the whole poultry chain is developed in the Netherlands by the PPE. More then 80% of the poultry farms are certified for IKB. IKB standards include hygiene management at farms, measures to prevent incoming infections and the hygienic transportation of animals.

5. GENERAL DESCRIPTION OF THE COSTS AND BENEFITS

5.1. Human salmonellosis

The incidence of human salmonellosis health, is outlined in the graph below:

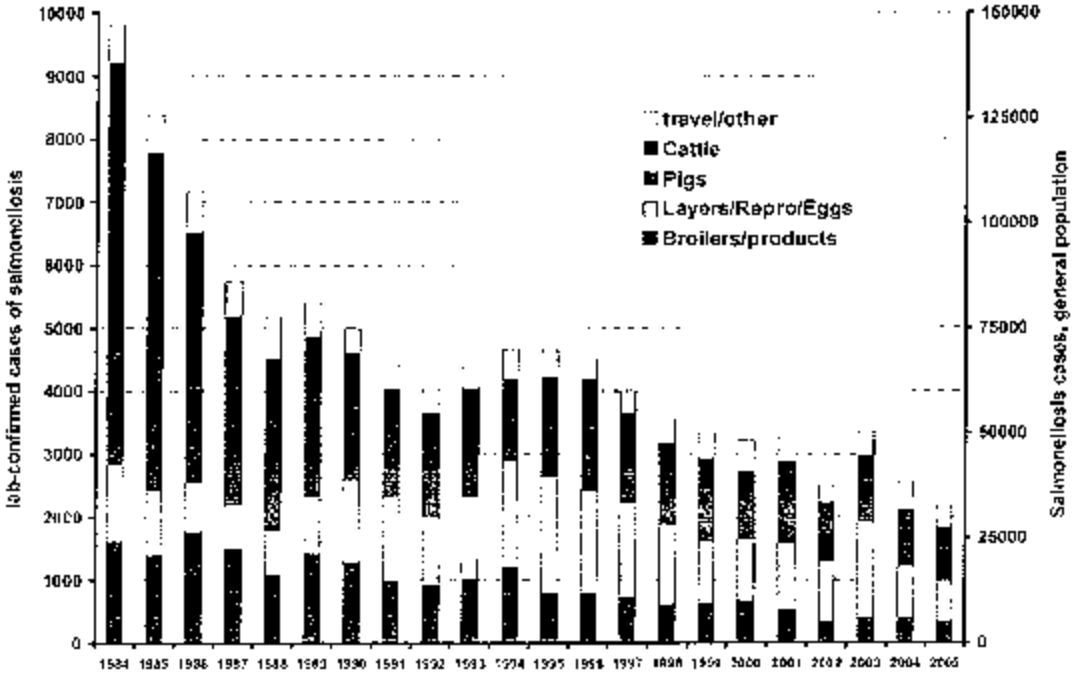


Figure 6: Occurrence of human cases of Salmonellosis

Detailed cost benefits data are not available.

6. DATA ON THE EPIDEMIOLOGICAL EVOLUTION DURING THE LAST FIVE YEARS

6.1 Evolution of zoonotic salmonellosis

6.1.2 Data on evolution of zoonotic salmonellosis

Year: 2002 - 2007
Situation on date: April 2008
Disease: Salmonella
Animal species: Poultry
Region: NL

Table 3: Number of positive laying hen flocks and rearing layer flocks 2002-2007

Year	Type of flock	Total number of flocks	Total number of animals	Total number of flocks under the programme	Total number of animals under the programme	Number of flocks checked	Number of positive flocks		Number of flocks depopulated		Total number of animals slaughtered or destroyed		Quantity of eggs destroyed (number or kg)		Quantity of eggs channelled to egg products (number or kg)	
							Se	St	Se / St	Other	Se / St	Other	Se / St	Other	Se / St	Other
2002	Laying hens	1.873	25.306.657	1.873	25.306.657	1.873	165	7	0	0	0	0	0	0	0	0
	Rearing layers	1.732	31.991.258	1.732	31.991.258	1.732	12	1	0	0	0	0	0	0	0	0
2003	Laying hens	864	11.254.780	864	11.254.780	864	59	3	0	0	0	0	0	0	0	0
	Rearing layers	1.457	29 741.225	1.457	29.741.225	1.457	9	3	0	0	0	0	0	0	0	0
2004	Laying hens	1.500	21.170.533	1.500	21 170.533	1.500	101	3	0	0	0	0	0	0	0	0
	Rearing	1.648	33.995.087	1.648	33.995.087	1.648	8	5	0	0	0	0	0	0	0	0

							Number of positive flocks		Number of flocks depopulated		Total number of animals slaughtered or destroyed		Quantity of eggs destroyed (number or kg)		Quantity of eggs channelled to egg products (number or kg)	
	layers															
2005	Laying hens	1.952	27.715.152	1.952	27.715.152	1.952	64	3	0	0	0	0	0	0	0	0
	Rearing layers	1.691	32.423.798	1 691	32.423.798	1.691	2	0	0	0	0	0	0	0	0	0
2006	Laying hens	1.878	28.022.408	1.878	28.022.408	1 878	85	6	0	0	0	0	0	0	0	0
	Rearing layers	1.561	31.233.603	1.561	31.233.603	1.561	0	1	0	0	0	0	0	0	0	0
2007	Laying hens	1.870	30.100.000	1.870	30.100.000	1.870	109	0	0	0	0	0	0	0	0	0
	Rearing layers	1.386	28 100.000	1.386	28.100.000	1.386	0	0	0	0	0	0	0	0	0	0

6.2 Stratified data on surveillance and laboratory tests

From 1-2-2008 on all flocks are tested bacteriologically.

6.3 Data on infection

Year: 2002 -2007
Animal species: Laying hens
Region: The Netherlands

Table 4: Number of flocks and animals infected 2002 - 2007

Year	Number of flocks infected (Se + St)	Number of animals infected
2002	172	2.752.000
2003	62	992.000
2004	104	1.664.000
2005	67	1.072.000
2006	91	1.456.000
2007	109	1.744.000

6.4 Data on vaccination programmes

In the Netherlands a part of the parent rearing flock (laying sector and poultry meat sector) are vaccinated. Also a part of the laying rearing flocks are vaccinated. There is no central database with information on the number of vaccinated flocks.

7. TARGETS

7.1 Targets related to testing

7.1.1 Targets on diagnostic tests
Not applicable.

7.1.2 Targets on testing of flocks

Year: 2009
Situation on date: December 2007
Animal species: Poultry
Disease: Salmonella
Region: NL

Table 5: Targets on testing of flocks

Type of flock	Total number of flocks	Total number of animals.	Total number of flocks under the programme	Total number of animals under the programme	Expected number of flocks to be checked	Number of flocks expected to be positive		Number of flocks expected to be depopulated		Total number of animals expected to be slaughtered or destroyed		Expected quantity of eggs to be destroyed (number)		Expected quantity of eggs channelled to egg products (number)	
						Se	St	Se / St	Other	Se / St	Other	Se / St	Other	Se / St	Other
Laying hens	1.870	30.100.000	1.870	30.100.000	1.870	110	5	11	0	180.000	0	0	0	260.000.000	0
Rearing layers	1.368	28.100.000	1.368	28.100.000	1.368	1	1	2	0	45.000	0	0	0	0	0
Total	3.238	58.200.000	3.238	58.200.000	3.238	111	6	13	0	225.000	0	0	0	260.000.000	0

7.2 Targets

7.2.1 Targets on vaccination

Not applicable.

8. DETAILED ANALYSIS OF THE COSTS ESTIMATE OF THE PROGRAMME

Table 6: Detailed analysis of the costs estimate of the programme for 2009

Costs related to	Specification 1	Specification 2	Calculation	Number of units	Unitary cost in Euro	Total amount in Euro	Community funding requested within Sal. Control Programme for Laying Hen Flocks (yes/no)
1. Testing							
1.1 Costs of analysis							
(costs of analysis on initiative of food business operator)	*Layers*	Faecal / dust	1.870*2,5	4675	18,39	85.973	
Costs of official analysis	*Layers*	Faecal/dust	1.870*1	1.870	18,39	34.389	Yes
Official analysis in case of positive results (verification according to EC 1237/2007, Annex I)	*Layers*	Faecal/dust	1.870* 0.1	187	175	32.725	yes
	Rearing laying	Blood	1.386	1.386	117,6	162.994	yes
1.2 Costs of sampling							No
(these are the costs for the official sampling)	*Layers*	Faecal / dust	1870	1.870	106,75	199.623	
Official sampling in case of positive results (verification according to EC 1237/2007, Annex I)	*Layers*	Faecal/dust	1.870*0.1	187	356	66.572	Yes
	Rearing laying	Blood	1356	1.386	106,75	147.956	yes
					Subtotal 1	**418.282 (costs funding**	No

						requested)	
1.3 Other costs							
Animal Feed Treatment							
	Layers		30.100.000	30.100.000	0,0016	48.160	No
2. Vaccination or treatment							
	Rearing laying	Vaccine	0,95*31.500.000	29.925.000	0,14	4.189.500	Yes
					Subtotal 2	**4.189.500**	
3. Slaughter and destruction							
3.1. Compensation of animals							
	Rearing layers		2*22.500	45.000	4	180.000	Yes
	Layers up to 28 weeks of age		11*16.500	181.500	5	907.500	Yes
					Subtotal 3	**1.087.500**	
3.2 Transport costs			X	X	X	X	No
3.3 Destruction costs							
	Rearing layers		2*22.500	45.000	1	45.000	Yes
	Layers (up to 28 weeks of age)		11*16.500	181.500	1	181.500	Yes
					Subtotal 4	**226.500**	
3.4 Loss in case of slaughtering			X	X	X	X	X
3.5 Costs of treatment of products							
4. Cleaning and disinfection							
	Layers		110	110	65,8	7.238	No
5. Salaries			X	X	X	X	X
6. Consumables and specific equipment			X	X	X	X	X
7. Other costs							

	Layers	Canalization consumption eggs of SE / ST infected flocks	0,078 * 1,870 * 16.096 * 25 * 6.3	369.772.603	0,02	7.395.452	Yes
					Subtotal 5	**7.395.452**	

TOTAL COSTS REQUESTED FOR REFUNDING IN 2009 FOR LAYING HEN FLOCKS

Testing	(subtotal 1)	€	419.282
Vaccination	(subtotal 2)	€	4.189.500
Compensation of eradicated animals	(subtotal 3)	€	1.087.500
Destruction costs	(subtotal 4)	€	226.500
Other costs	(subtotal 5)	€	7.395.452
	TOTAL	€	13.318.234

PROPOSED
VETERINARY CONTROL PROGRAMME
FOR
SALMONELLA IN BREEDING FLOCKS
PRESENTED FOR 2009*
BY
THE NETHERLANDS

* IN ACCORDANCE WITH REGULATION 2160/2003 AND 1003/2005

INDEX

1. INTRODUCTION OF THE PROGRAMME

Member state:	The Netherlands
Disease:	Infection of animals with zoonotic Salmonella spp
Year of implementation:	1-1-2007 until 31-12-2009
Reference of this document:	final version, version 2
Geographical Area:	The Netherlands
Contact:	Ir. S.J.F.M. (Suzanne) van der Heijden Product Board for Poultry and Eggs, PPE Phone: 0031(0)79 363 4316 Fax: 0031(0)79 363 4345 E-mail: s.van.der.heijden@pve.agro.nl
Date sent to the commission:	30-04-2008

2. HISTORICAL DATA ON THE EPIDEMIOLOGICAL EVOLUTION OF ZOONOTIC SALMONELLOSIS

The Netherlands has two programmes to control the prevalence of Salmonella, one for the poultry meat chain (the basis for this programme) and one for the egg production chain. In this Chapter these two programmes are mentioned together with the infection percentages in the poultry meat chain and the egg production chain.

2.1 Poultry meat production

In May 1997 a programme to control the prevalence of Salmonella in poultry was started. The programme (called: "Plan of Approach Salmonella and Campylobacter in the Poultry meat sector 1997") that was designed, involved strict hygiene rules and the monitoring of Salmonella infections throughout the poultry meat production chain. The plan was introduced with the aim to decrease the number of Salmonella infections (in slaughtered broilers) to less then 10 % by the year 2000. The actions involved in the Plan were obligatory, pursuant to the legislation of the PPE.

The effects of the programme were evaluated in January 2000. The monitoring results showed a reduction of the percentage of Salmonella infected broilers after slaughter. In the fourth quarter of 1999 16 % of the slaughtered broilers were infected with Salmonella which meant that the initial aim was not achieved. This result led to the formulation of a stricter programme (called: "Action Plan Salmonella and Campylobacter in the Poultry meat sector 2000+"). In this programme the Dutch industry aims for an elimination of all Salmonella serotypes in poultry meat. This means that this target is beyond of the Zoonoses Directive (2003/2160 EG), since this directive only aims on serotypes with public health significance. Again, the actions involved are obligatory.

One of the objects of the current programme is to monitor the prevalence of Salmonella infections in all links of the production chain. In Figure 1 the monitoring results are presented from the 1st quarter of 2000 until the 4th quarter of 2007. The monitoring data per year are presented in Table 1. In this figure:

Status: Is the Salmonella status of the hatching eggs as they are delivered to the hatcheries.

Fluff: Is the percentage of Salmonella positive fluff-samples taken from the hatcheries at the end of the hatching process.

Box paper: Is the percentage of Salmonella positive samples taken from day-old chicken box paper at the broiler farms.

S-faeces: Is the percentage of Salmonella positive faecal samples taken at the broiler farms.

S-intestine: is the percentage of Salmonella positive intestine samples taken at the slaughterhouse.

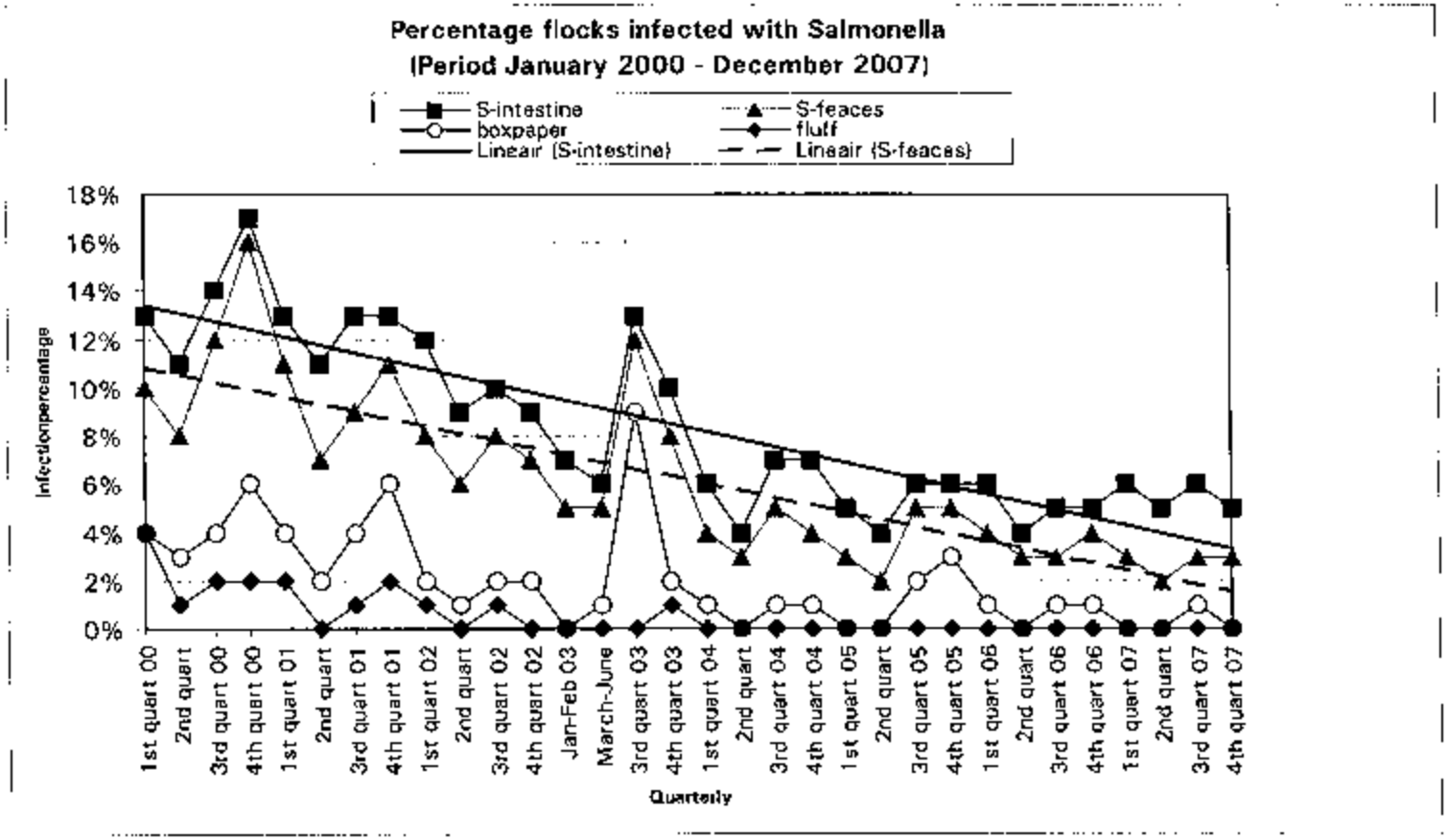


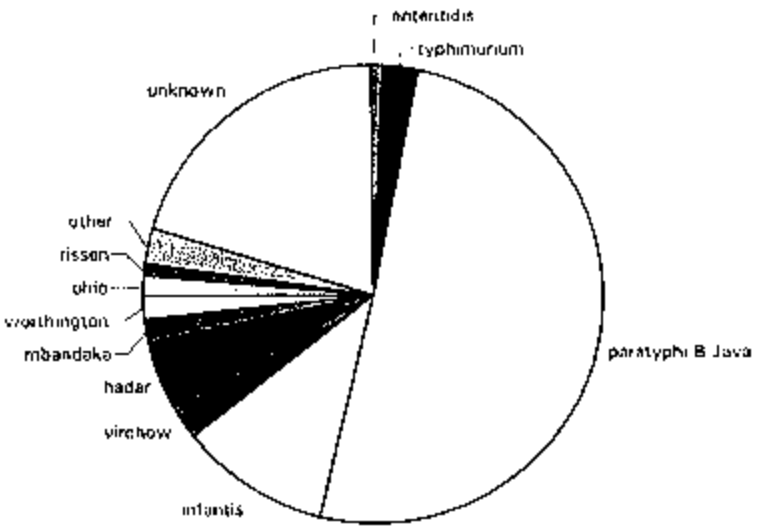
Figure 1: Percentages of Salmonella spp. positive samples taken from different links of the production chain per quarter (PPE, 2008).

Table 1: Percentages of Salmonella spp. positive samples taken from different links of the production chain per quarter (PPE, 2008).

	S-Intestine	S-faeces	Boxpaper	Fluff
4th quarter 2007	5%	3%	0%	0%
3th quarter 2007	6%	3%	1%	0%
2nd quarter 2007	5%	2%	0%	0%
1st quarter 2007	6%	3%	0%	0%
4th quarter 2006	5%	4%	1%	0%
3th quarter 2006	5%	3%	1%	0%
2nd quarter 2006	4%	3%	0%	0%
1st quarter 2006	6%	4%	1%	0%
4th quarter 2005	6%	5%	3%	0%
3th quarter 2005	6%	5%	2%	0%
2nd quarter 2005	4%	2%	0%	0%
1st quarter 2005	5%	3%	0%	0%
4th quarter 2004	7%	4%	1%	0%
3th quarter 2004	7%	5%	1%	0%
2nd quarter 2004	4%	3%	0%	0%
1st quarter 2004	6%	4%	1%	0%
4th quarter 2003	10%	8%	2%	1%
3th quarter 2003	13%	12%	9%	0%
March till June 2003*	6%	5%	1%	0%
Januari & Februari 2003	7%	5%	0%	0%
4th quarter 2002	9%	7%	2%	0%
3th quarter 2002	10%	8%	2%	1%
2nd quarter 2002	9%	6%	1%	0%
1st quarter 2002	12%	8%	2%	1%

* In this period Avian Influenza problems were overruling the monitoring of Salmonella.

The figure below shows the serotypes that have been found in the infected flocks (faecal sampling) in the 4th quarter 2007.



Serotyping faecal sampling Salmonella (4th quarter 2007)

Figure 2: Serotyping of faecal sampling Salmonella, 4th quarter 2007 (PVE 2008)

In the next figures the infection percentages in the slaughterhouses are shown.

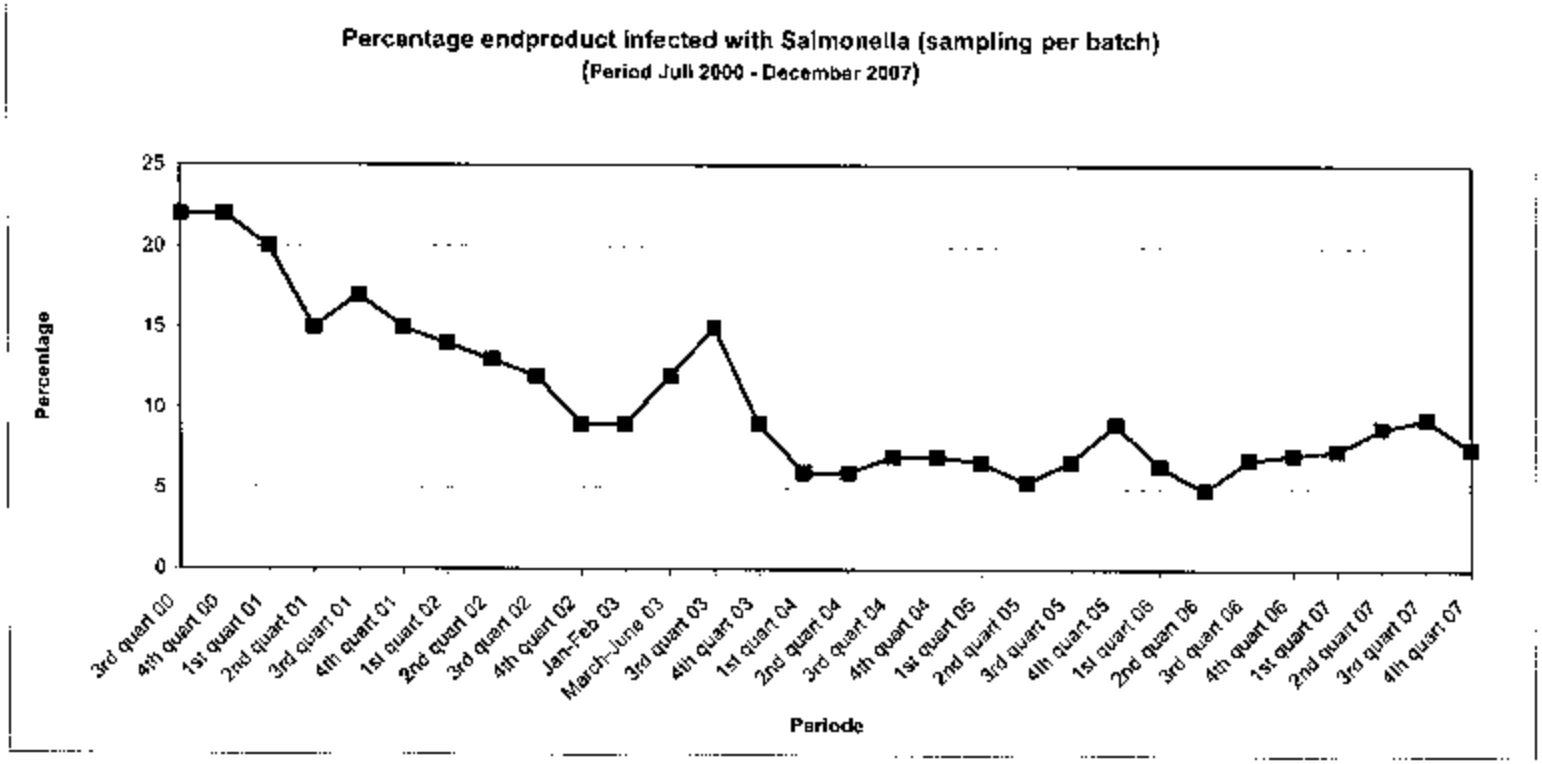
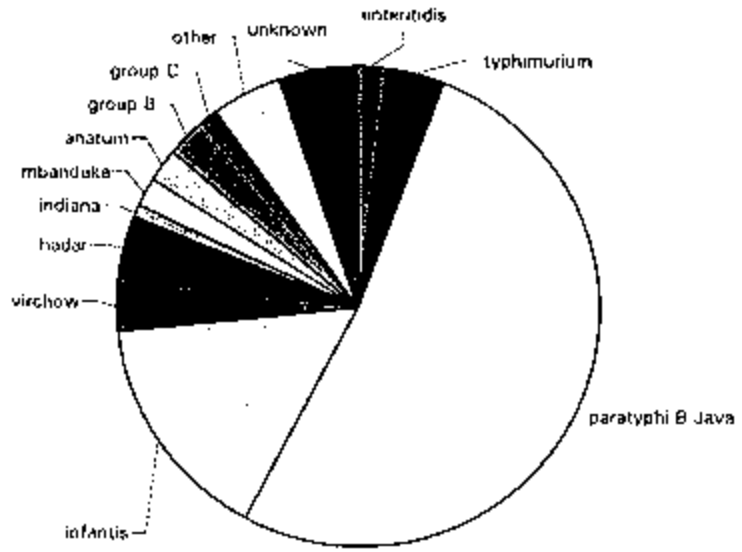


Figure 3: percentage end product infected with Salmonella spp. in the slaughterhouse (PVE, 2008)

Table 2: Percentage end product infected with Salmonella spp. in the slaughterhouse (PVE, 2008)

Endproduct	Salmonella
4th quarter 2007	8%
3th quarter 2007	9%
2nd quarter 2007	9%
1st quarter 2007	7%
4th quarter 2006	7%
3th quarter 2006	7%
2nd quarter 2006	5%
1st quarter 2006	6%
4th quarter 2005	9%
3th quarter 2005	7%
2nd quarter 2005	5%
1st quarter 2005	7%
4th quarter 2004	7%
3th quarter 2004	7%
2nd quarter 2004	6%
1st quarter 2004	6%
4th quarter 2003	9%
3th quarter 2003	15%
March till June 2003	12%
Januari & Februari 2003	9%
4th quarter 2002	9%
3th quarter 2002	12%
2nd quarter 2002	13%
1st quarter 2002	14%
4th quarter 2001	15%
3th quarter 2001	17%
2nd quarter 2001	15%
1st quarter 2001	20%
4th quarter 2000	22%
3th quarter 2000	22%



Serotyping endproduct sampling Salmonella (4th quarter 2007)

Figure 4: Serotyping endproduct infected with Salmonella 4th quarter 2007 (PVE, 2008)

2.2 Egg production

In November 1997 a programme to control the prevalence of Salmonella in laying hens was started. The objective of the programme (called "Plan of Approach prevention and control of Salmonella in the egg industry 1999") was to reduce the SE and ST prevalence in flocks of laying hens to 5 percent or less by November 2000. This programme involved strict hygiene rules and the monitoring of Salmonella infections throughout the egg production chain. Because this objective was not reached a new programme was introduced in the beginning of 2001. The target of this programme, called "Action Plan Salmonella in egg production 2001 +" was to strive for a 0 + percent of contaminated eggs. In this stricter approach the eggs of contaminated flocks of laying hens are delivered to the egg product industry, for a special allowed treatment. The actions involved in both programmes were obligatory, pursuant to the legislation of the PPE.

To monitor the incidence of SE / ST infections in Dutch flocks of laying hens a blood sample of at least 0.5 percent (with a minimum of 24 and a maximum of 60 animals) of every flock were taken maximum 9 weeks before removal at end of lay. The test results were analysed by the Animal Health Service and reported to the PPE. Figure 1 and Table 1 show the percentage of SE / ST infected layer hen flocks in the period from November 1997 until December 2006.

Over the period from February 1999 to December 2000 11,4 percent of the examined layer flocks tested SE / ST positive. After the introduction of the stricter programme "Action Plan Salmonella in egg production 2001 +" the SE/ST-infection percentage, based on serological results, of layers decreased towards 5.8 in 2007. This might partly be due to the increased use of vaccines against SE of the layers.
For the Netherlands a SE/ST-infection percentage, based on bacteriological results, of 7.8 was determined through a European study "Analysis of the baseline study on the prevalence of Salmonella in laying hen flocks of Gallus gallus". This percentage is the starting-point for this programme "Veterinary control programme for salmonella in laying flocks". The above-mentioned differences in infection percentage are mainly due to differences in monitoring.

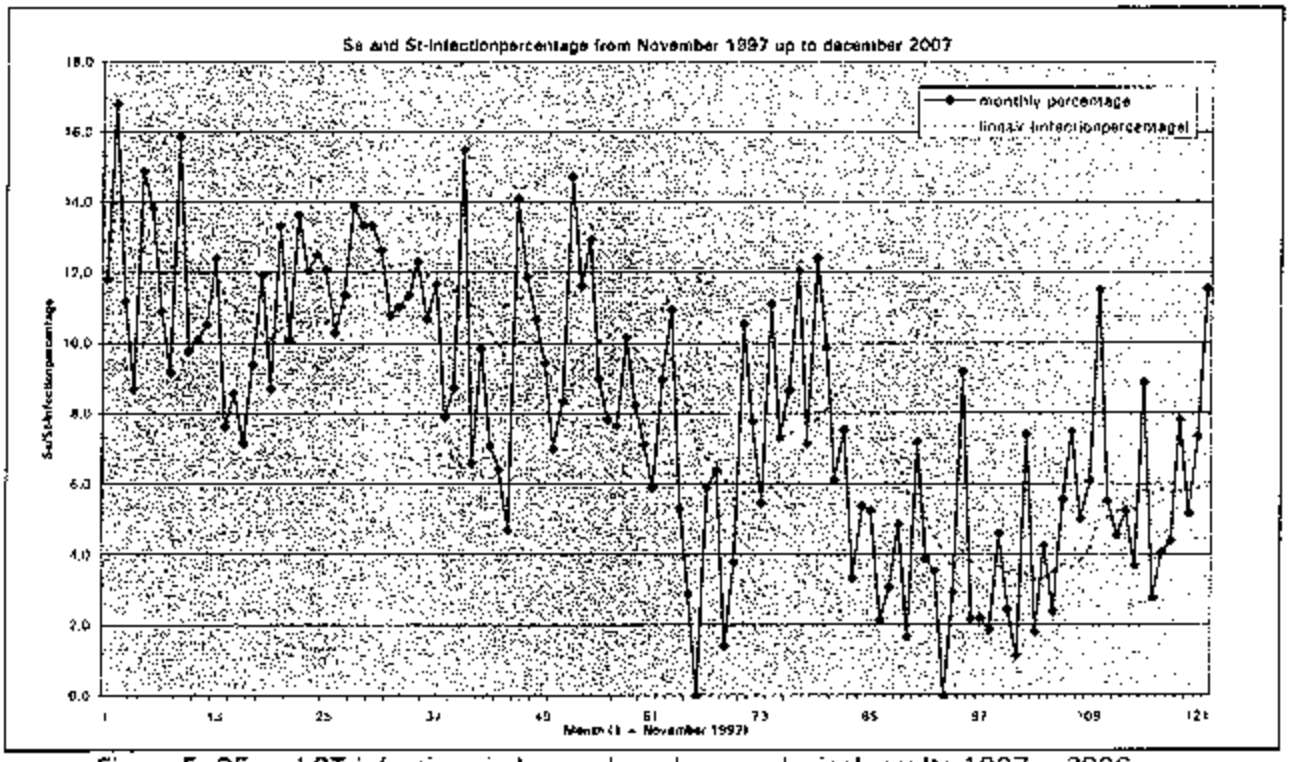


Figure 5: SE and ST infections in layers, based on serological results 1997 – 2006 (source PVE)

Table 3: SE and ST infections in layers, based on serological results 1997 – 2007 (source PVE)

Year	Number of flocks	SE infected	% SE infected	ST infected	% ST infected
1997*	258	35	13,6	2	0,8
1998	1631	181	11,1	6	0,4
1999	1705	181	10,6	3	0,2
2000	2010	229	11,4	6	0,3
2001	1978	177	8,9	4	0,2
2002	1873	165	8,8	7	0,4
2003	864	59	6,8	3	0,3
2004	1500	101	6,7	3	0,2
2005	1952	64	3,3	3	0,2
2006	1878	85	4,5	6	0,3
2007	1870	109	5,8	0	0

*Start of programme November 1997

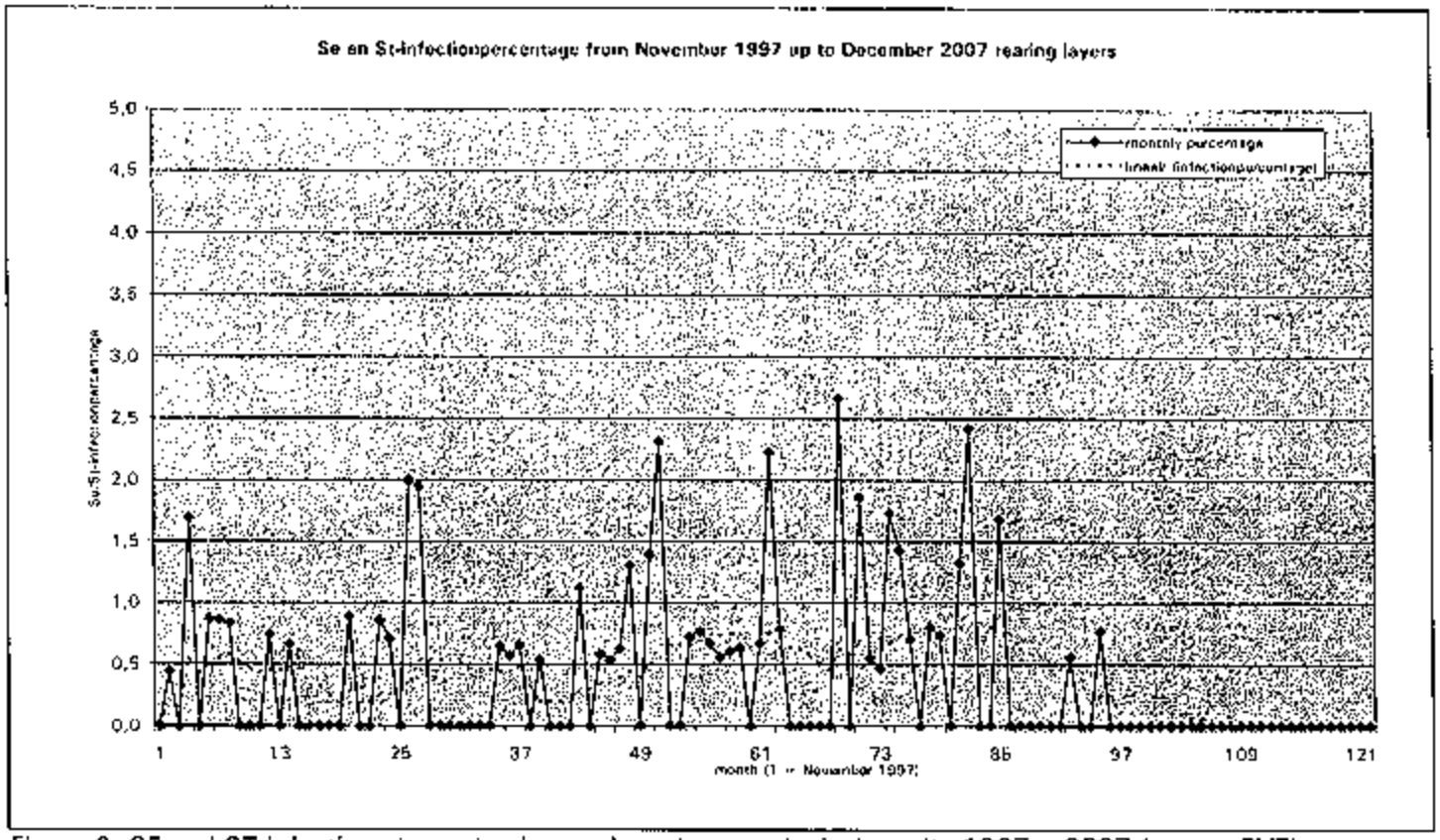


Figure 6: SE and ST infections in rearing layers, based on serological results 1997 – 2007 (source PVE)

3. DESCRIPTION OF THE SUBMITTED PROGRAMME

3.1 Target Veterinary Control Programme

The target for the reduction of Salmonella Enteritidis, Salmonella Hadar, Salmonella Infantis, Salmonella Typhimurium and Salmonella Virchow in breeding flocks of Gallus gallus is a reduction of the maximum percentage of adult breeding flocks comprising at least 250 birds remaining positive to 1 % or less by 31 December 2009.

3.2 Monitoring of the Veterinary Control Programme

A. Monitoring through the operator
The test frequency is laid down in the directives of the PPE. Monitoring in breeder flocks is being done according to table 6. In general the monitoring will take place at the holding. When desired by the operator managing the breeding flock, sampling can take place at the hatchery. In these cases sampling at the hatchery will replace the monitoring at the holding, as described in table 6. In both cases the operator managing the breeding flock is responsible for the monitoring. If monitoring occurs at the hatchery the competent authority must be notified. When a positive sample is found at the hatchery, a conformation test will take place at the holding.

Table 4: Monitoring in breeder flocks

Part of the production chain	Incoming	Outgoing
Grand parent rearing	day of arrival: box paper (40 pieces) 4 weeks of age: cloacal samples (2x30)	max. 14 days before transfer: faecal samples (6x25)
Grand parent stock	22 –24 weeks of age: faecal samples (2x150) or five pair of boot swabs (two pools)**	from 24 weeks of age, every 2 weeks: faecal samples (2x150) or five pair of boot swabs (two pools)**
Hatchery*	Every two weeks:* One composite sample containing five hatcher basket liners, or 10 g broken eggshells from 25 hatcher baskets. 25 g sample must be tested.	every hatching entity is sampled once: fluff (5x5 g)
Parent rearing	day of arrival: box paper (40 pieces) 4 weeks of age: cloacal samples (2x30) or 5 pair of boot swabs**	max. 14 days before transfer: faecal samples (6x25) or 5 pair of boot swabs**
Parent stock	22-24 weeks of age: faecal samples (2x150) or five pair of boot swabs (two pools)**	from 24 weeks of age, every 2 weeks: faecal samples (2x150) or five pair of boot swabs (two pools)**
Hatchery*	Every two weeks:* One composite sample containing five hatcher basket liners, or 10 g broken eggshells from 25 hatcher baskets. 25 g sample must be tested.	meat: every hatching entity is sampled once: fluff (5x5 g) laying: every 2 weeks one hatching entity is sampled: fluff (5x5 g)
Meat production		
Broiler farm	day of arrival: box paper (40 pieces)	faecal samples (2x15 samples or two pair of plastic shoes), to be taken from 21 days onwards
Slaughterhouse	faecal samples (small intestine) (1x30)	breastskin sample (25 grams), every batch filet surface samples (25 grams), one sample / day
Egg Production		
Layer at rearing age		max. 14 days before transfer: blood samples (0,5% of the animals in a flock with a min. of

		24 and a max. of 60 samples)
Layers		Every 15 weeks (as of the age of 24 weeks +/- 2 weeks): samples of faecal material and dust.

* Sampling at the hatchery is only compulsory when the operator managing the breeder flocks prefers monitoring in that phase and in agreement with the hatchery.

** The Netherlands will submit a proposal to the Commission to ask permission as from the 1st of January 2009 to change the present sampling procedure of five pair of boot swabs (two pools)

B. Official Sampling:
Official sampling is being done three times during a production cycle at the holdings:
1. within the first 4 weeks
2. within 8 weeks before the end of the production cycle
3. sometime in between the two samples mentioned above.

This shall replace on that occasion the corresponding sampling at initiative of the operator.

In the cases where sampling is being done at the hatchery, official sampling will take place every sixteen weeks. In addition official sampling at the holding will be conducted within the first four weeks and in the last eight weeks of the production cycle. When Salmonella is found, confirmed testing at the holding will take place.

3.3 Measures to be taken in case of Salmonella positive findings at the poultry house

Measures to be taken in case of Salmonella positive findings are represented in table 7 for the meat production chain and in table 8 for the egg production chain. When detecting Salmonella in the meat productions chain, serotyping is always performed. Detection of Salmonella in the egg production chain will lead to serotyping to at least the relevant Salmonella's. Guidelines for the tracing survey are laid down in directives of the PPE.

Table 5: Measures in the poultry meat sector in case of Salmonella infection

Part of the production chain	Measures
Grant parent rearing/stock	Verification in case of suspicion. When verification results in SE/ST, then eradication of the flock. In addition, or when any other type of Salmonella is found, including SH, SV and SI*, the following steps are compulsory: Tracing survey, under supervision of the veterinarian. Thorough cleaning and desinfection of the housing when empty. Swab test, executed by a by the PPE acknowledged company, of the house after cleaning and desinfection. The new flock can be placed when the swab test was negative.
Hatchery	After verification at the holding, SE/ST infected eggs are eradicated. When necessary for reaching the specified target of the programme PPE can prescribe that Salmonella infected eggs, including serotypes SH, SV and SI*, are hatched logistically.
Parent rearing/stock	Verification in case of suspicion. When verification results in SE/ST, then eradication of the flock. In addition, or when any other type of Salmonella is found, including SH, SV and SI*, the following steps are compulsory: Tracing survey, under supervision of the veterinarian. Thorough cleaning and desinfection of the housing when empty. Swab test, executed by a by the PPE acknowledged company, of the house after cleaning and desinfection. The new flock can be placed when the swab test was negative.
Hatchery	After verification at the poultry house, SE/ST infected eggs are eradicated. When necessary for reaching the specified target of the programme PPE can prescribe that Salmonella infected eggs, including serotypes SH, SV and SI*, are hatched logistically.
Broiler farm	Tracing survey in case of Salmonella, under supervision of the veterinarian. After cleaning and disinfection swab and hygiene check, executed by a by the PPE acknowledged company, in the poultry house.
Slaughterhouse	Logistical slaughter of Salmonella infected flocks.

* *Recent figures show an increase in the infection numbers of Salmonella Infantis and Salmonella Virchow in the Netherlands. When necessary to reach the community target, culling will be compulsory for Salmonella Virchow, Salmonella Hadar and Salmonella Infantis. These costs are taken into account in the cost estimate of the programme for 2009 that can be found in chapter 8.*

Table 6: Measures in the laying sector in case of Salmonella infection.

Part of the production chain	Measures
Grand parent rearing/stock	When SE/ST are found: Verification in case of suspicion of Se/St. When verification results in Se/St, then eradication of the flock. When SH, SV or SI* are found: Tracing survey under supervision of the veterinarian In addition, or when any other type of Salmonella is found, the following steps are compulsory: Thorough cleaning and desinfection of the housing when empty. Swab test, executed by a by the PPE acknowledged company, of the house after cleaning and desinfection. The new flock can be placed when the swab test was negative.
Hatchery	After verification at the poultry house, SE/ST infected eggs are eradicated. When necessary for reaching the specified target of the programme PPE can prescribe that Salmonella infected eggs, including serotypes SH, SV and SI*, are hatched logistically.
Parent rearing / stock	When Se/St are found: Verification in case of suspicion of SE/ST. When verification results in SE/ST, then eradication of the flock. When SH, SV or SI* are found: Tracing survey under supervision of the veterinarian In addition, or when any other type of Salmonella is found, the following steps are compulsory: Thorough cleaning and desinfection of the housing when empty. Swab test, executed by a by the PPE acknowledged company, of the house after cleaning and desinfection. The new flock can be placed when the swab test was negative.
Hatchery	After verification at the poultry house, SE/ST infected eggs are eradicated. When necessary for reaching the specified target of the programme PPE can prescribe that Salmonella infected eggs, including serotypes SH, SV and SI*, are hatched logistically.
Layers rearing	Verification in case of Se/St suspicion. After verification eradication of Se/St infected flock or the eggs to the processing industry. Tracing survey in case of Se/St., under supervision of the veterinarian. After cleaning and disinfection swab and hygiene check, executed by a by the PPE acknowledged company, in the poultry house.

Part of the production chain	Measures
Layers	Se/St infected eggs to the egg product industry. After professional cleaning and disinfection swab test, executed by a by the PPE acknowledged company, of the poultry house. Vaccination of the following flocks in the house.

* *Recent figures show an increase in the infection numbers of Salmonella Infantis and Salmonella Virchow in the Netherlands. When necessary to reach the community target, culling will be compulsory for Salmonella Virchow, Salmonella Hadar and Salmonella Infantis. These costs are taken into account in the cost estimate of the programme for 2008 that can be found in chapter 8.*

4. MEASURES OF THE SUBMITTED PROGRAMME

4.1 Summary of measures under the programme

Duration of the programme:

1. Poultry meat production: programme runs since 1997, since 2002 adopted co financing for eradication of SE / ST infected breeding flocks. The programme has slightly been adjusted due to the requirements laid down in Regulation 1003/2005/EC of the Commission. The programme is ongoing, at least up to 31-12-2009.
2. Egg production: programme runs since 1997, since 2002 adopted co financing for eradication of SE / ST infected breeding flocks. The programme has slightly been adjusted due to the requirements laid down in Regulation 1003/2005/EC of the Commission. The programme is ongoing, at least up to 31-12-2009.

First year

- ☐ Control:
  - ☐ Testing
  - ☐ Killing of animals tested positive
  - ☐ Vaccination (voluntary)
  - ☐ Treatment of animal products
- ☐ Monitoring or surveillance
- ☐ Other measures:
  - ☐ Hygiene measurements
  - ☐ Cleaning and disinfecion
  - ☐ Sampling
  - ☐ Exchange sampling results throughout the chain
  - ☐ Measures taken in case of Salmonella infections

Last year

- ☐ Control:
  - ☐ Testing
  - ☐ Killing of animals tested positive
  - ☐ Vaccination (voluntary)
  - ☐ Treatment of animal products
- ☐ Monitoring or surveillance
- ☐ Other measures:
  - ☐ Hygiene measurements
  - ☐ Cleaning and disinfection
  - ☐ Sampling
  - ☐ Exchange sampling results throughout the chain
  - ☐ Measures taken in case of Salmonella infections

4.2 Designation of central authority charged with supervising and coordinating the departments responsible for implementing the programme.

In the Netherlands the Product Board for Poultry and Eggs executes the implementation of the programme. The Ministry of Agriculture, Nature and Food Quality is the central authority and supervising this implementation. In the scheme on the next page all organisations involved are mentioned, including their relation to the programme.

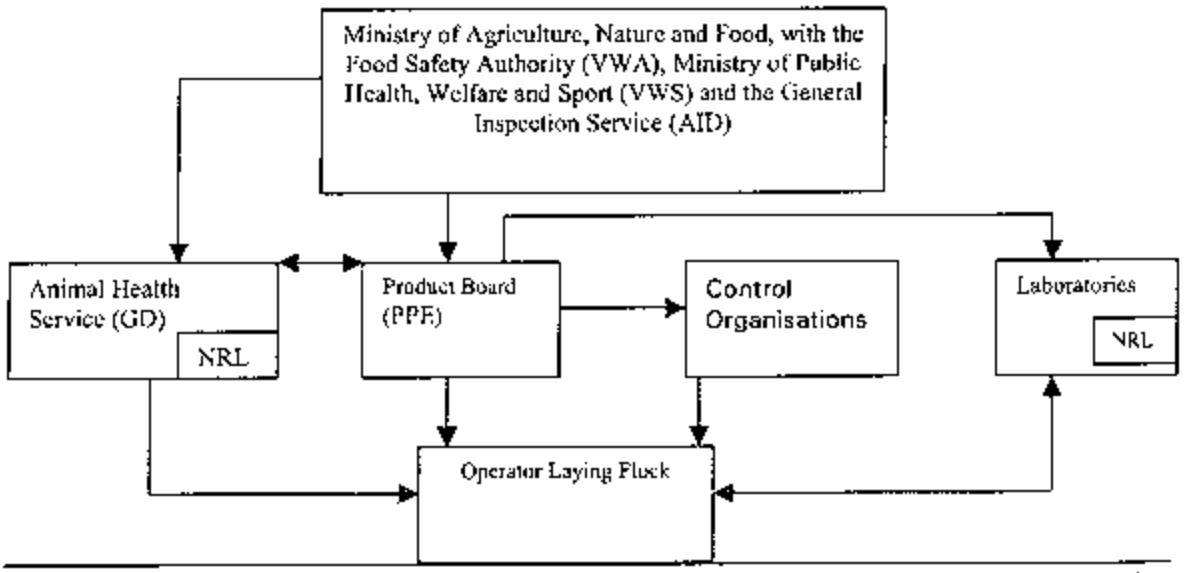


Figure 7: Organisational scheme of the institutes involved in the Action Plans concerning the control of Salmonella in poultry:

1. PPE

The Product Board for Poultry and Eggs (PPE) is a delegated authority. This is legally laid down in the following regulation by the Ministry of Agriculture, Nature and Food Quality: "Besluit bescherming tegen bepaalde zoönosen en bestrijding van besmettelijke dierziekten" and "Regeling preventie, bestrijding en monitoring van besmettelijke dierziekten en zoönosen en TSE's". The regulations concerning the Action Plans are formulated by the PPE and acknowledged by the Ministry of Agriculture. The implementation of the programme is carried out by the PPE. The evaluations of the results are also the responsibility of the Product Board.

2. Animal Health Service (GD)

Concerning poultry, the main objective is to promote optimal health of poultry, particularly by preventing infectious diseases and the presence of microorganisms and residues that may be harmful to consumers. As a competent independent organisation, the GD occupies a central position in organised poultry health care. On the basis of (government) regulations or by government order, disease control programmes are realised. The GD is acknowledged by the Ministry of Agriculture, Nature and Food Quality to perform these tasks.
The GD performs the official sampling, analysis and confirmation of Salmonella infections in the poultry reproduction populations. Positive test results for the relevant Salmonella serotypes are reported to the PPE.

3. VWA and AID

The Food and Consumers Product Safety Authority (VWA) checks if the GD and other laboratories perform according to the agreed work process. Both the VWA and the General Inspection Service (AID) are able to prosecute in specific cases when measures were not followed correctly (e.g. by laboratory or farmer).

4. Control organisations

The control organisations audit the procedures in the Action Plan and the sampling done by de operators. These control organisations must be independent and are acknowledged by the PPE.

5. Laboratories
In total 23 (private) laboratories are acknowledged by the PPE to perform analysis to determine the Salmonella status of samples taken concerning the Action plans. This is legally laid down in the PPE directive "Besluit erkenningsvoorwaarden en werkwijzen laboratoria (PPE) 2007". Every acknowledged laboratory has to participate in the ring-survey for the determination and serotyping of Salmonella that is performed by the RIVM (NRL) every twelve months. Positive test results for the relevant Salmonella serotypes are reported to the PPE.

6. NRL (RIVM, National Institute of Public Health and Environment)
The RIVM is the national reference laboratory for Salmonella. RIVM falls under the Ministry of Public Health, Welfare and Sport (VWS), and also undertakes commissions from other ministries such as the Ministry for Agriculture, Nature and Food Quality. The RIVM organises regular bacteriological ring surveys among laboratories, including the GD, participating in the Dutch national programme for control of Salmonella in the poultry sector. Results of these ring surveys are reported to the PPE.

Structure of the production of feed
Directives for the production of feed are laid down in the "Kaderwet Diervoeders" by the Ministry of Agriculture, Nature and Food Quality. The Product board for Feed (PDV) is a delegated authority and publishes specific regulations on the production of feed. The most important regulations for the poultry sector are the "Verordening Monitoring Zoönosen en Zoönoseverwekkers Diervoedersector 2005" and the "Besluit PDV Salmonella in de diervoedersector 2005". In the latter one the monitoring are presented in the Dutch annual zoönoses report.

Next to these regulations there is also a quality assurance program for feed. This is called Good Manufacturing / Managing Practice system, in short the GMP-system. Combined with the HACCP principles this quality assurance system is called GMP+. Almost all feed producers for the poultry chain are GMP+ certified. All IKB certified poultry farmers are obligated to use GMP+ certified food. IKB is a voluntary Dutch Integral Chain Control program. The GMP+ standards include control measures for base materials, rules for additives, sampling scheme for zoönoses, hygiene and process criteria and compulsory regularly controls by an independent control organization.

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

Geographical limitations: The Netherlands.

4.4 Measures implemented under the programme

4.4.1 Measures and terms of legislation as regards the registration of the holding

All poultry farms and flocks are being registered by the PPE. Every farm receives a unique number. When a flock is being transferred from one farm to another the PPE must be informed. This is laid down in the directive "Verordening productie van en handel in broedeieren en levend pluimvee (PPE)". All the information is stored in the "Koppel Informatiesysteem Pluimvee (KIP-system)". This so-called KIP system is also the bases for the registration in according to the EC directive 852/2004.

4.4.2 Measures and terms of legislation as regards the identification of the animals

Not applicable for Poultry.

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

In case of a SE, ST, SH, SV and SI infection the laboratory that signalises the first indication/suspicion has to inform the GD (Animal Health Service) and the farmer. After this a verification study is being executed by the veterinarian of the GD. When the infection is confirmed the PPE and the farmer are informed. PPE organises the destruction of the infected animals and the breeding eggs.

The veterinarian has the obligation to notify Salmonella. This is specified in legislation of the Ministry of Agriculture, Nature and Food Quality, "Regeling preventie, bestrijding en monitoring van besmettelijke dierziekten en zoönosen en TSE's".
Directives of the PPE state that the farmer has to notify Salmonella. In most cases the veterinarian will do this for the farmer.

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

The measures that have to be taken in case of a positive result are laid down in directives of the PPE. The Ministry of Agriculture, Nature and Food Quality and Ministry of Public Health, Welfare and Sport have to approve these directives. All measures are stated in Chapter 3.

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

Not applicable for poultry.

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

The animals and eggs are transported in sealed transportation equipment. The sealing is carried by an inspection body. This inspection body also takes care of the counting of all the animals and eggs (in order to check the correct number that can be co financed). The seal is adjusted at the farm and is removed at the slaughterhouse or destruction company, also by the inspection body.

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

Testing is carried out according to the provisions laid down in Commission Regulation 1003/2005 (Annex 3)
The test frequency is laid down in the directives of the PPE. For technical details on test frequency consult table 4.

Laboratory tests and analyses
The tests that are performed in the Action Plan are:
PVE branche method for Salmonella analysis: this method includes the use of Modified Semi solid Rapport Vassiliadis agar (MSRV) as a selective enrichment medium. The semi solid medium should be incubated at 41.5 °C +/- 1 °C for 48 h. Alternative methods for detection will be permitted (for example Salmonella analysis by PCR), according to the

provisions laid down in Commission Regulation 1003/2005 (Annex 3.4). ~~when the methods are approved as valid by the CRL~~.
In case of a positive finding, serotyping is performed according to the Kaufmann-White scheme.

Vaccines for SE
In the Netherlands parts of the parent rearing flock (laying sector and poultry meat sector) are vaccinated. There is no central database with information on the number of vaccinated flocks.
In the poultry meat sector Salmonella vaccines are used only for parent rearing flocks. Approximately 60% of the animals are vaccinated. In the layer production sector Salmonella vaccines are used for parent rearing flocks and rearing layer flocks. Approximately respectively 80% of the rearing parent flocks and 80% of the rearing layers are vaccinated.

The vaccines that are used are:
Parent rearing flocks: Salenvac and Salenvac T
Rearing layers: SG9R (Intervet), Vac E (TAD, Lohmann) and Gallivac (Merial).

Antimicrobials
The use of antimicrobials is prohibited except for circumstances laid down in 1091/2005/EC, article 1.

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

Depending on the content of the EU regulations compensation will be given for eradication of breeding flocks, vaccination of breeding flocks, sampling (standard, official and verification). The financial contribution for the farmer and the measures to be taken to receive the contribution are specified in legislation of the Product Board for Poultry and Eggs, "Verordening Subsidieverlening terugdringing Salmonella (PPE)".

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

Besides the control programme for Salmonella, each flock will be checked once through a veterinarian, in accordance to the GVP-code (Good Veterinarian Practice).
In addition to that every poultry farmer has to comply with the following measures, laid down in the directive "Verordening Hygiënevoorschriften Pluimveehouderij (PPE)":
a) hygiene measurements;
b) cleaning and disinfection;
c) sampling;
d) exchange sampling results throughout the chain;
e) measures taken in case of Salmonella infection.

In according to 852/2004 and 853/2004 Guides for Good Practices are being developed for the poultry sector. In these guides HACCP principles and traceability measures are implemented. The guides for poultry farms are based on the quality system IKB. This quality assurance system for the whole poultry chain is developed in the Netherlands by the PPE. More then 80 % of the poultry farms are certified for IKB. IKB standards include hygiene management at farms, measures to prevent incoming infections and the hygienic transportation of animals.

5.1 Human salmonellosis

The incidence of human salmonellosis health, is outlined in the graph below:

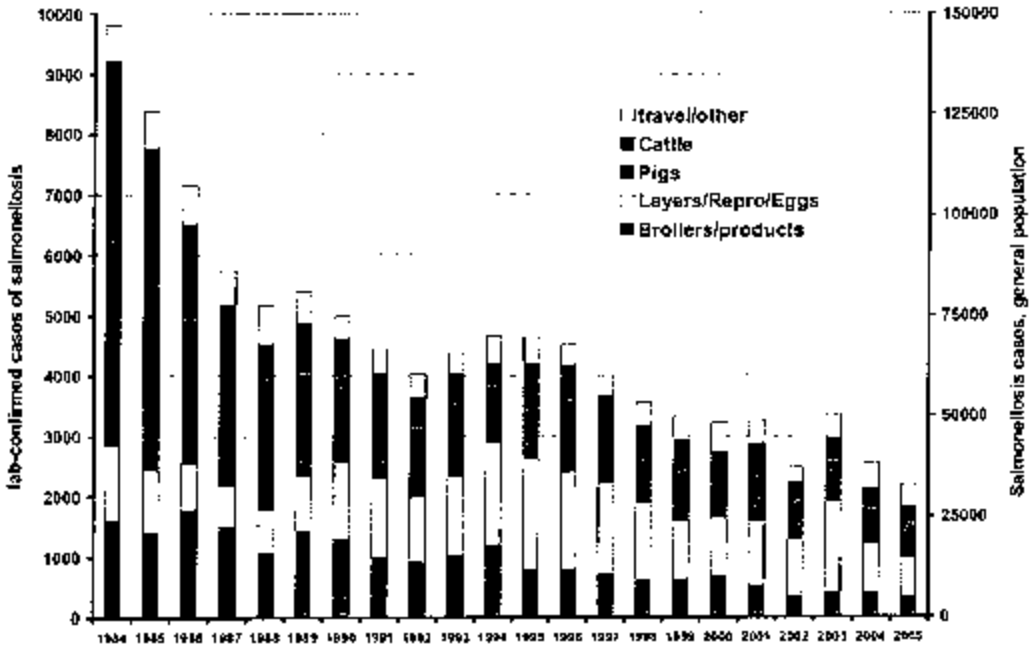


Figure 8: Occurrence of human cases of Salmonellosis and expected source.

Detailed cost benefits data are not available.

6. DATA ON THE EPIDEMIOLOGICAL EVOLUTION DURING THE LAST FIVE YEARS

6.1 Evolution of zoonotic salmonellosis

6.1.2 Data on evolution of zoonotic salmonellosis

Year: 2002
Situation on date: December 2002
Disease: Salmonella
Animal species: Poultry
Region: NL

Table 7: Number of positive flocks 2002

Type of flock	Total number of flocks	Total number of animals	Total number of flocks under the programme	Number of flocks checked	Number of positive flocks			Number of flocks depopulated		Total number of animals slaughtered or destroyed.		Quantity of eggs destroyed (number or kg.)		Quantity of eggs channelled to egg products (number or kg).	
					A1	A2	A3	A4	A3	A4	A3	A4	A3	A4	A3
Grand parent	150	600.000	150	150	2	0	0	2	0	8.321	0	49.403	0	44.659	0
Parent poultry meat	425	4.400.000	425	425	6	0	0	6	0	39.587	0	91.896	0	89.418	0
Parent layer	83	602.250	83	83	3	0	0	3	0	35.619	0	208.962	0	60.480	0

A1 = Salmonella Enteritidis, A2 = Salmonella Typhimurium, A3 = other serotypes, A4 = Salmonella Enteritidis of Salmonella Typhimurium.

Year: 2003
Situation on date: December 2003
Disease: Salmonella
Animal species: Poultry
Region: NL

Table 8: Number of positive flocks 2003

Type of flock	Total number of flocks	Total number of animals	Total number of flocks under the programme	Number of flocks checked	Number of positive flocks			Number of flocks depopulated		Total number of animals slaughtered or destroyed.		Quantity of eggs destroyed (number or kg.)		Quantity of eggs channelled to egg products (number or kg).	
					A1	A2	A3	A4	A3	A4	A3	A4	A3	A4	A3
Grand parent	150	600.000	150	150	2	0	0	2	0	4.699	0	0	0	0	0
Parent poultry meat	425	4.400.00	425	425	9	0	0	9	0	55.114	0	446.719	0	689.050	0
Parent - laying	83	602.250	83	83	4	0	0	4	0	38.845	0	797.460	0	205.280	0

A1 = Salmonella Enteritidis, A2 = Salmonella Typhimurium, A3 = other serotypes, A4 = Salmonella Enteritidis of Salmonella Typhimurium.

Year: 2004
Situation on date: December 2004
Disease: Salmonella
Animal species: Poultry
Region: NL

Table 9: Number of positive flocks 2004

Type of flock	Total number of flocks	Total number of animals	Total number of flocks under the programme	Number of flocks checked	Number of positive flocks			Number of flocks depopulated		Total number of animals slaughtered or destroyed.		Quantity of eggs destroyed (number or kg.)		Quantity of eggs channelled to egg products (number or kg).	
					A1	A2	A3	A4	A3	A4	A3	A4	A3	A4	A3
Grand parent	150	600.000	150	150	0	0	0	0	0	0	0	0	0	0	0
Parent poultry meat	425	4.400.000	425	425	1	0	0	1	0	5.923	0	180.890	0	174.900	0
Parent - laying	83	602.250	83	83	1	1	0	2	0	15.225	0	18.540	0	0	0

A1 = Salmonella Enteritidis, A2 = Salmonella Typhimurium, A3 = other serotypes, A4 = Salmonella Enteritidis of Salmonella Typhimurium.

Year: 2005
Situation on date: December 2005
Disease: Salmonella
Animal species: Poultry
Region: NL

Table 10: Number of positive flocks 2005

Type of flock	Total number of flocks	Total number of animals	Total number of flocks under the programme	Number of flocks checked	Number of positive flocks			Number of flocks depopulated		Total number of animals slaughtered or destroyed.		Quantity of eggs destroyed (number or kg.)		Quantity of eggs channelled to egg products (number or kg).	
					A1	A2	A3	A4	A3	A4	A3	A4	A3	A4	A3
Grand parent	150	600.000	150	150	0	0	0	0	0	0	0	0	0	0	0
Parent poultry meat	295	3.500.000	295	295	3	4	0	7	0	98.909	0	211.842	0	242.343	0
Parent - laying	65	650.000	65	65	0	0	0	0	0	0	0	0	0	0	0

A1 = Salmonella Enteritidis, A2 = Salmonella Typhimurium, A3 = other serotypes, A4 = Salmonella Enteritidis of Salmonella Typhimurium.

Year: 2006
Situation on date: December 2006
Disease: Salmonella
Animal species: Poultry
Region: NL

Table 11: Number of positive flocks 2006

Type of flock	Total number of flocks	Total number of animals	Total number of flocks under the programme	Number of flocks checked	Number of positive flocks			Number of flocks depopulated		Total number of animals slaughtered or destroyed.		Quantity of eggs destroyed (number or kg.)		Quantity of eggs channelled to egg products (number or kg).	
					A1	A2	A3	A4	A3	A4	A3	A4	A3	A4	A3
Grand parent	159	751.144	159	159	1	0	0	1	0	11.000	0	49.416	0	90.000	0
Parent poultry meat	347	3.347.178	347	347	4	1	0	4	1	36.904	0	0	0	78.765	0
Parent - laying	46	438.508	46	46	0	0	0	0	0	0	0	0	0	0	0

A1 = Salmonella Enteritidis, A2 = Salmonella Typhimurium, A3 = other serotypes, A4 = Salmonella Enteritidis of Salmonella Typhimurium.

Year: 2007
Situation on date: December 2007
Disease: Salmonella
Animal species: Poultry
Region: NL

Table 11: Number of positive flocks 2007

Type of flock	Total number of flocks	Total number of animals	Total number of flocks under the programme	Number of flocks checked	Number of positive flocks			Number of flocks depopulated		Total number of animals slaughtered or destroyed.		Quantity of eggs destroyed (number or kg.)		Quantity of eggs channelled to egg products (number or kg).	
					A1	A2	A3	A4	A3	A4	A3	A4	A3	A4	A3
Grand parent	130	700.172	130	700.172	0	0	0	0	0	0	0	0	0	0	0
Parent poultry meat	601	4.768.938	601	4.768.938	4	0	1	4	0	36.000	0	139.000	0	179.000	0
Parent laying	69	650.229	69	650.229	0	0	1	0	1	0	1350	0	0	0	0

A1 = Salmonella Enteritidis, A2 = Salmonella Typhimurium, A3 = other serotypes, A4 = Salmonella Enteritidis of Salmonella Typhimurium.

6.2 Stratified data on surveillance and laboratory tests

From 01-01-2007 on all flocks will be tested bacteriological.

6.3 Data on infection

Not applicable.

6.4 Data on vaccination programmes

In the Netherlands a part of the parent rearing flock (laying sector and poultry meat sector) are vaccinated. Also a part of the laying rearing flocks are vaccinated. There is no central database with information on the number of vaccinated flocks.

7. TARGETS

7.1 Targets related to testing

7.1.1 Targets on diagnostic tests

Not applicable.

7.1.2 Targets on testing flocks

Year: 2009
Situation on date: December 2007
Animal species: Poultry
Disease: Salmonella
Region: NL

Table 12: Targets on testing of flocks

Type of flock	Total number of flocks	Total number of animals	Total number of flocks under the programme	Total number of animals under the programme	Expected number of flocks to be checked	Number of flocks expected to be positive			Number of flocks expected to be depopulated		Total number of animals expected to be slaughtered or destroyed.		Expected quantity of eggs destroyed (number)		Expected quantity of eggs channelled to egg products (number)	
						A1	A2	A3	A4	A3	A4	A3	A4	A3	A4	A3
Grandparent, poultry meat	129	457.298	129	457.298	129	1	0	0	1	0	3.545	0	44.312	0	44.312	0
Parent rearing, poultry meat	450	7.122.330	450	7.122.330	450	1	0	0	1	0	15.827	0	0	0	0	0
Parent, poultry meat	355	4.678.698	355	4.678.698	355	3	1	2**	4	2	52.718	26.359	658.972	329.486	658.972	329.486
Grandparent layers	30	76.335	30	76.335	30	1	0	0	1	0	2.545	0	31.806	0	31.806	0
Parent rearing layers	45	748.618	45	748.618	45	1	0	1**	1	0	16.636	0	0	0	0	0
Parent, layers	46	538.546	46	538.546	46	1	0	1**	1	1	11.708	11.708	146.344	146.344	146.344	146.344

A1 = Salmonella Enteritidis, A2 = Salmonella Typhimurium, A3 = other serotypes, A4 = Salmonella Enteritidis of Salmonella Typhimurium.
** When culling of Salmonella Hadar, Salmonella Virchow or Salmonella Infantis will be necessary, these numbers are expected. The estimated costs are mentioned separately (see chapter 8).

7.2 Targets on vaccination
Not applicable.

8. DETAILED ANALYSIS OF THE COSTS OF THE PROGRAMME

Table 13: Detailed analysis of the costs estimate of the programme for 2009

Costs related to	Specification 1	Specification 2	Calculation	Number of units	Unitary cost in Euro	Total amount in Euro	Community funding requested within Sal. Control Programme for Breeding Flocks (yes/no)
1. Testing							
1.1 Costs of analysis							
analysisofficial sampling and sampling on initiative of the food business operator	*Poultry meat*						
	Grandparent:						
	Rearing incoming	Box paper	129	129	18,39	2.372	Yes
	Rearing incoming + outgoing	Cloacal faeces	129*(2+6)	1.032	18,39	18.978	Yes
	Stock incoming + outgoing	Faecal	129*2017*2	4.3865.160	18,39	80.65884.892	Yes
	Hatchery incoming	Egg shells/fluff	(129*19)	2.451	18,39	45.074	Yes
	Parent:						
	Rearing incoming	Box paper	450/2	211	18,39	3.880	Yes
	Rearing incoming + outgoing	Cloacal faces	450*(2+6)	3.376	18,39	62.085	Yes

	Stock incoming + outgoing	Faecal	355*1720*2	12.07043.880	18,39	221.967255.253	Yes
	Hatchery incoming	Egg shells/fluff	500.000.000	500.000.000	0,0016	800.000	Yes
Official analysis	*Poultry meat*						
	Grandparent:						
	Stock incoming + outgoing	Faecal	129*3*2	774	18,39	14.234	Yes
	Parent:						
	Stock incoming + outgoing	Faecal	355*3*2	2.130	18,39	39.171	Yes
analysisofficial sampling and sampling on initiative of the food business operator	Layer production						
	Grandparent:						
	Rearing incoming	Boxpaper	30	60	18,39	1.103	Yes
	Rearing incoming + outgoing	Cloacal faeces	30*(2+6)	240	18,39	4.414	Yes
	Stock: incoming + outgoing	Faecal	30*1720*2	1.0201.200	18,39	18.75822.068	Yes
	Hatchery: incoming	Egg shells/fluff	150	150	18,39	2.759	Yes
	Parent:						
	Rearing incoming	Box paper	45/2	23	18,39	414	Yes
	Rearing incoming+ outgoing	Cloacal faeces	45*(2+6)	360	18,39	6.620	Yes
	Stock incoming + outgoing	Faecal	46*1720*2	1.5641.840	18,39	28.76233.838	Yes

	Hatchery incoming	Egg shells/fluff	90.000.000	90.000.000	0,0016	144.000	Yes
Official analysis	Layer production						
	Grandparent:						
	Stock: incoming + outgoing	Faecal	30*3*2	180	18,39	3.310	Yes
	Parent:						
	Stock incoming + outgoing	Faecal	46*3*2	276	18,39	5.075	Yes
					Subtotal 1	**1.497.750**	
1.2 Costs of sampling							
	Poultry meat:						
	Grandparent:						
	Rearing outgoing	Cloacal faeces	129	129	104	13.416	Yes
	Parent:						
	Rearing incoming	Cloacal faeces	450	450	104	46.800	Yes
	Rearing outgoing	Faecal	355	355	104	36.920	Yes
	Layer production						
	Grandparent:						
	Rearing outgoing	Cloacal faeces	30	30	104	3.120	Yes
	Parent:						
	Rearing incoming	Cloacal faeces	45	45	104	4.680	Yes
	Rearing outgoing	Faecal	46	46	104	4.784	Yes

					Subtotal 2	**109.720**	
1.3 Other costs							
Animal Feed Treatment	*Poultry meat*						
	Parent rearing / stock		8.960.500	8.960.500	0,2	1.792.100	No
	Layer production						
	Parent rearing / stock		1.027.000	1.027.000	0,2	205.400	No
2. Vaccination or treatment							
	Poultry meat						
	Parent rearing	Vaccine	0,6*6.351.865	3.811.119	0,37	1.410.114	Yes
	Layer production						
	Parent rearing	Vaccine	0,8*600.277	480.222	**0,14**	67.231	Yes
					Subtotal 3	**1.477.345**	
3. Slaughter and destruction							
3.1. Compensation of animals							
	Poultry meat						
	Grandparent		1*4.000	4.000	30,65	122.600	Yes
	Parent rearing		1*15.000	15.000	7,90	118.500	Yes
	Parent stock		4*10.000	40.000	8,58	343.200	Yes
					Subtotal 4	**584.300**	
	Parent stock[1]		2*10.000	20.000	8,58	171.600	Yes
					Subtotal 4a[1]	**171.600**	
	Layer production						
	Grandparent		1*7.500	7.500	62,39	467.925	Yes
	Parent rearing		1*15.000	15.000	9,45	141.750	Yes
	Parent stock		1*9.500	9.500	9,95	94.525	Yes
					Subtotal 5	**704.200**	

	Parent rearing[1]		1*15.000	15.000	9,45	141.750	Yes
	Parent stock[1]		1*9.500	9.500	9,95	94.525	Yes
					Subtotal 5a[1]	**236.275**	
3.2 Transport costs			X	X	X	X	No
3.3 Destruction costs							
	Poultry meat						
	Grandparent		1*4.000	4.000	1	4.000	Yes
	Parent rearing		1*15.000	15.000	1	15.000	Yes
	Parent		4*10.000	40.000	1	40.000	Yes
					Subtotal 6	**59.000**	
	Parent[1]		2*10.000	20.000	1	20.000	Yes
					Subtotal 6a[1]	**20.000**	
	Layer production						
	Grandparent		1*7.500	7.500	1	7.500	Yes
	Parent rearing		1*15.000	15.000	1	15.000	Yes
	Parent		1*9.500	9.500	1	9.500	Yes
					Subtotal 7	**32.000**	
	Parent rearing[1]		1*15.000	15.000	1	15.000	Yes
	Parent[1]		1*9.500	9.500	1	9.500	Yes
					Subtotal 7a[1]	**24.500**	
3.5 Costs of treatment of products							
	Poultry meat						
	Hatchery						
	Grandparent		1*4.000*25	100.000	1	100.000	Yes
	Parent		(4*10.000)*25	1.000.000	0,16	160.000	Yes
					Subtotal 8	**260.000**	
	Parent[1]		(2*10.000)*25	500.000	0,16	80.000	Yes
					Subtotal 8a[1]	**80.000**	

	Layer production						
	Hatchery						
	Grandparent		(1*7.500)*25	187.500	0,5	93.750	Yes
	Parent		(1*9.500)*25	237.500	0,16	38.000	Yes
					Subtotal 9	**131.750**	
	Parent[1]		(1*9.500)*25	237.500	0,16	38.000	Yes
					Subtotal 9a[1]	**38.000**	
4. Cleaning and disinfection							
	Poultry meat						
	Hatchery		22*2	88	96,4	8.483	No
			22*4	88	107,1	9.425	No
	Layer production						
	Hatchery		6*2	12	96,4	1.157	No
			6*4	24	107,1	2.570	No
5. Salaries			X	X	X	X	X
6. Consumables and specific equipment			X	X	X	X	X
7. Other costs							
	Poultry meat						
	Hatchery						
	Logistic hatching			6.000.000	0,0044	26.400	No
	Layer production						
	Hatchery						
	Logistic hatching			104.000.000	0,00444	461.760	No

TOTAL COSTS REQUESTED FOR REFUNDING IN 2009 FOR BREEDING FLOCKS

Costs of analyses:	(Subtotal 1 and 2)	€	1.497.750
Costs of sampling:	(Subtotal 2)	€	109.720
Vaccination:	(Subtotal 3)	€	1.477.345
Compensation of eradicated animals	(Subtotal 4 and 5)	€	1.288.500
Destruction costs:	(Subtotal 6 and 7)	€	91.000
Cost of treatment of products:	(Subtotal 8 and 9)	€	391.750
Compensation of eradicated animals:[1]	(Subtotal 4a and 5a)	€	407.875
Destruction costs:[1]	(Subtotal 6a and 7a)	€	44.500
Cost of treatment of products:[1]	(Subtotal 8a and 9a)	€	118.000
	Total	€	5.426.440

[1] Calculation of the costs of eradication, destruction and treatment when breeding flocks are culled for Salmonella Hadar, Salmonella Virchow and Salmonella Infantis.