European Food Safety Authority

ZOONOSES MONITORING

CZECH REPUBLIC

The Report referred to in Article 9 of Directive 2003/99/EC

TRENDS AND SOURCES OF ZOONOSES AND ZOONOTIC AGENTS IN HUMANS, FOODSTUFFS, ANIMALS AND FEEDINGSTUFFS

including information on foodborne outbreaks, antimicrobial resistance in zoonotic agents and some pathogenic microbiological agents.

IN 2011

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Czech Republic

Reporting Year: 2011

Laboratory name	Description	Contribution
State Veterinary Administration of the Czech Republic	Main tasks are protection of consumers from products of animal origin likely to be harmful to human health, monitoring of animal health situation and maintaining it favourable, veterinary protection of the state territory of the Czech Republic and animal welfare and animal protection	Contact point for Commission in accordance with Article 3 (2) Regulation 2003/99/EC. Monitoring, data collection and reporting
Czech Agriculture and Foot Inspection Authority (CAFIA)	Responsible for the control at wholesale and retail level of former foodstuffs including packaged meat and meet products	Sampling, laboratory testing and reporting.
National Institute of Public Health (NIPH)	Health promotion and protection, disease prevention and follow-up environmental impact on the health status of the population. Two department are involved to the zoonoses reporting: Department of epidemiology and microbiology and Department of food chain hygiene.	Foodborn outbreaks reporting, sampling, laborytory testing and reporting.

PREFACE

This report is submitted to the European Commission in accordance with Article 9 of Council Directive 2003/99/ EC*. The information has also been forwarded to the European Food Safety Authority (EFSA).

The report contains information on trends and sources of zoonoses and zoonotic agents in Czech Republic during the year 2011 .

The information covers the occurrence of these diseases and agents in humans, animals, foodstuffs and in some cases also in feedingstuffs. In addition the report includes data on antimicrobial resistance in some zoonotic agents and commensal bacteria as well as information on epidemiological investigations of foodborne outbreaks. Complementary data on susceptible animal populations in the country is also given. The information given covers both zoonoses that are important for the public health in the whole European Community as well as zoonoses, which are relevant on the basis of the national epidemiological situation.

The report describes the monitoring systems in place and the prevention and control strategies applied in the country. For some zoonoses this monitoring is based on legal requirements laid down by the Community Legislation, while for the other zoonoses national approaches are applied.

The report presents the results of the examinations carried out in the reporting year. A national evaluation of the epidemiological situation, with special reference to trends and sources of zoonotic infections, is given. Whenever possible, the relevance of findings in foodstuffs and animals to zoonoses cases in humans is evaluated.

The information covered by this report is used in the annual Community Summary Report on zoonoses that is published each year by EFSA.

---

* Directive 2003/ 99/ EC of the European Parliament and of the Council of 12 December 2003 on the monitoring of zoonoses and zoonotic agents, amending Decision 90/ 424/ EEC and repealing Council Directive 92/ 117/ EEC, OJ L 325, 17.11.2003, p. 31

List of Contents

1. ANIMAL POPULATIONS

The relevance of the findings on zoonoses and zoonotic agents has to be related to the size and nature of the animal population in the country.

A. Information on susceptible animal population

Sources of information

Czech Statistical Office
Official statistics from Central Register of Animals in the Czech Republic which is performing in accordance with Breeding Act No. 154/2000 as amended
Data from State Veterinary Administration database

Dates the figures relate to and the content of the figures

Numbers of animals and holdings related to 31. 12. 2011.

National evaluation of the numbers of susceptible population and trends in these figures

Animal population is roughly the same level as in last year's, small changes occur in each category.
The number of cattle holdings little bit decreased whereas the number of animals slightly increased. The number of sheep holdings and animals increased in year 2010. The same trends were in goats population. The number of pig holdings decreased, number of animals slightly increased. Number of Gallus gallus were approximatelly at the same level as in 2009, but number of flocks decreased as compared with year 2009.Number of geese and ducks were going up. Number of holdings with turkeys were going up but number of turkey decreased.
Cattle population slightly decreased in year 2011 in comparison with year 2010. Number of pigs holdings and animals decreased more significant in year 2011. In other species is situation in year 2011 similar like in year 2010.

Additional information

The reported numbers of animals and holdings can be significant deviations from the numbers from previous years. It is caused by changes in the structure of farms during the year and also the availability of data. It would be desirable if the structure of animal populations in the message match the system of registration and registration of animals in the EU legislation.

Table Susceptible animal populations

* Only if different than current reporting year

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Cattle (bovine animals)	dairy cows and heifers			146223		400694		14319	
	calves (under 1 year)			11105		361010		12624	
	- in total			266620		1324350		19658	
Deer	farmed - in total			115		13641		82	
Ducks	meat production flocks	156				360000		101	
	grandparent breeding flocks	6				21000		2	
	elite breeding flocks	6				21000		2	
	breeding flocks, unspecified - in total	12				42000		4	
	- in total	168		1489405		402000		105	
Gallus gallus (fowl)	breeding flocks for egg production line - in total	25				260252		6	
	breeding flocks for meat production line - in total	625				4157517		71	
	elite breeding flocks for egg production line	6				73193		3	
	parent breeding flocks for egg production line	19				187059		3	

Table Susceptible animal populations

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Gallus gallus (fowl)	parent breeding flocks for meat production line	621				4133734		70	
	grandparent breeding flocks for meat production line	4				23783		1	
	laying hens	444				8011152		71	
	broilers	5087				130817705		334	
	- in total	6181				143246626		482	
Geese	meat production flocks	24				7000		20	
	grandparent breeding flocks	1				6000		1	
	elite breeding flocks	1				6000		1	
	breeding flocks, unspecified - in total	2				12000		2	
	- in total	26				19000		22	
Goats	animals under 1 year					14589		4157	
	milk goats					14414		2803	
	- in total			710		29003		5266	
Pigs	- in total			3053433		1719784		2609	

Table Susceptible animal populations

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Sheep	animals under 1 year (lambs)					83517		10175	
	milk ewes					148746		9998	
	- in total			12643		232263		13344	
Solipeds, domestic	horses - in total			432		80574		13905	
Turkeys	meat production flocks	292				948694		60	
	parent breeding flocks	12				21496		1	
	- in total	304				970190		61	

Footnote:

The number of flocks of Gallus gallus and turkeys is the number of flocks in production period tested in the framework o the Salmonella control programme.

Number of slaughtered ducks is number of slaughtered ducks and geese

2. INFORMATION ON SPECIFIC ZOONOSES AND ZOONOTIC AGENTS

Zoonoses are diseases or infections, which are naturally transmissible directly or indirectly between animals and humans. Foodstuffs serve often as vehicles of zoonotic infections. Zoonotic agents cover viruses, bacteria, fungi, parasites or other biological entities that are likely to cause zoonoses.

2.1 SALMONELLOSIS

2.1.1 General evaluation of the national situation

A. General evaluation

History of the disease and/or infection in the country

The monitoring and control programmes for Salmonella are carried out in the whole food chain. To this programmes are involved three institutions which are in charge for food safety and public health protection. Czech Agricultre and Food Inspection Authority and State Veterinary Administration have been established by Ministry of Agriculture and National Institute of Public Health has been establish by Ministry of Health. The Salmonellosis is notifiable disease in both in human and animal population and the obligation for notification is laied down in the legislation.

National evaluation of the recent situation, the trends and sources of infection

The main sources of infection in humans were products form eggs and poultry meat. The number of reported cases in human population has decreasing tendency during last years.

Relevance of the findings in animals, feedingstuffs and foodstuffs to human cases (as a source of infection)

There is no relevance between finding in animals and finding in human. This cases are very rare. The main source of infection is through to foodstuffs of animal origin.

Recent actions taken to control the zoonoses

State Veterinary Administration, Ministry of Agriculture and Poultry Breeding Association perform in accordance with Regulation No 2160/2003 Salmonella control programmes in breeding flocks, laying hens producing table eggs, broilers and turkeys.

2.1.2 Salmonellosis in humans

A. Salmonellosis in humans

Reporting system in place for the human cases

Infectious diseases (all infections including parasitary) are notified on legal basis (20/1966, 258/2000.) Physicians are obliged to notify the occurence of the infection disease and data are collected by the net of Regional Public Health Institutes with their district branch offices. The data are centrally collected and processed by the National Institute of Public health.

Case definition

Clinical signs compatible with salmonellosis, e.g. diarrhoea, abdominal pain, nausea and sometimes vomiting and bacteriological investigation.

Diagnostic/analytical methods used

Microbiological investigation, cultivation, serotyping, phagetyping

Notification system in place

Infectious diseases (all infections including parasitary) are notified on legal basis (20/1966, 258/2000). Physicians are obliged to notify the occurence of the infection disease and send collected data by the net of Regional Public Health Institutes with their district branch offices. The data are centrally collected and processed by the National Institute of Public health.

History of the disease and/or infection in the country

Incidence of salmonelloses was growing during the period from 1981 and got the plateau in late eighties. The brake was in 1989 when incidence reached three times higher levels than in previous years. The highest incidence rates were notified in 1995. Since 1998 the rates are steadily dropping down. Salmonelloses are unevenly distributed in our country. The highest rates were generally notified in agricultural districts in the east.

Results of the investigation

Less attention is paid to thermic processing of poultry and eggs and they became predominant risk food. Salmonella Enteritidis is the prevalent serotype (95% of all cases)in recent years.

2.1.3 Salmonella in foodstuffs

A. Salmonella spp. in pig meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

The slaughterhouses were selected so that the entire area of the Czech Republic was covered. Sampling is done randomly on the surface of the five carcasses. The samples were taken in accordance with Directive 2003/99/EC. Samples were taken from the specified locations of carcass in half way through the slaughter day and before chilling.

At meat processing plant

The samples were taken in the ordinary surveillance.

At retail

Frequency of the sampling

At slaughterhouse and cutting plant

Once a month

At meat processing plant

Sampling distributed evenly throughout the year

Type of specimen taken

At slaughterhouse and cutting plant

Surface of carcass

At meat processing plant

—

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

Five carcasses shall be sampled at random during each sampling session. Five carcasses of pigs were sampled before chilling using the non-destructive method with an abrasive sponge(according ISO 17604). The samples were taken from four sites of carcass (mid-back, hind limb - medial, breast - lateral, abdomen - lateral). Each sample was taken from area-100cm2.
The samples were aseptically removed and placed aseptically into a sample container and transferred to the laboratory.

At meat processing plant

The samples - meat products, were placed aseptically into a sample container and transferred to the laboratory.

At retail

The samples - final product, had to placed aseptically into a sample container and transferred to the laboratory.

Definition of positive finding

At slaughterhouse and cutting plant

presence of Salmonella in 25 g of sample

At meat processing plant

presence in 25 g

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

At meat processing plant

Bacteriological method: ISO 6579:2002

Preventive measures in place

Controls of HACCP, GMP and GHP systems

Control program/mechanisms

The control program/strategies in place

The competent authority takes measures according to the legislation in force and defined cases are reported into the Rapid Alert System for Food and Feed.

Recent actions taken to control the zoonoses

SVA, NIPH and CAFIA carry out monitoring and control programs in the whole food chain and take appropriate measures according to the legislation in force to ensure safe foodstuffs.

Measures in case of the positive findings or single cases

In the case of positive result of the investigation the competent authority takes measures to prevent spreading of the infection to the food chain.

Notification system in place

The positive result of the bacteriological test has to be reported to the appropriate Regional Veterinary Administration (RVA) and the RVA has oblige to take appropriate measures. The positive results are reported to the RVA from laboratories which made the tests.

National evaluation of the recent situation, the trends and sources of infection

The prevalence of the Salmonella spp. in pig meat and products is low and the situation is stable and similar like in previous years.

B. Salmonella spp. in bovine meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

The slaughterhouses were selected so that the entire area of the Czech Republic was covered. Sampling is done randomly on the surface of the five carcasses. The samples were taken in accordance with Directive 2003/99/EC. Samples were taken from the specified locations of carcass in half way through the slaughter day and before chilling.

At meat processing plant

The samples are taken in the ordinary surveillance.

Frequency of the sampling

At slaughterhouse and cutting plant

Once a month

At meat processing plant

Sampling distributed evenly throughout the year

Type of specimen taken

At slaughterhouse and cutting plant

Surface of carcass

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

Five carcasses shall be sampled at random during each sampling session. Five carcasses of bovine animals were sampled before chilling using the non-destructive method with an abrasive sponge (according ISO 17604). The samples were taken from four sites of carcass - rump, flank, brisket, neck. Each sample was taken from area-100cm2. The samples were aseptically removed and placed aseptically into a sample container and transferred to the laboratory.

At meat processing plant

The samples - meat product (final product), were placed aseptically into a sample container and transferred to the laboratory.

Definition of positive finding

At slaughterhouse and cutting plant

presence in 25 g

At meat processing plant

presence of salmonella in 25 g of sample

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

At meat processing plant

Bacteriological method: ISO 6579:2002

Preventive measures in place

control of HACCAP and GHP system

Control program/mechanisms

The control program/strategies in place

The competent authority takes measures according to the legislation in force and defined cases are reported into the Rapid Alert System for Food and Feed.

Recent actions taken to control the zoonoses

SVA, NIPH and CAFIA carry out monitoring and control programs in the whole food chain and take appropriate measures according to the legislation in force to ensure safe foodstuffs.

Measures in case of the positive findings or single cases

In the case of positive result of the investigation the competent authority takes measures to prevent spreading of the infection to the food chain.

Notification system in place

The positive result of the bacteriological test has to be reported to the appropriate Regional Veterinary Administration (RVA) and the RVA has oblige to take appropriate measures. The positive results are reported to the RVA from laboratories which made the tests.

National evaluation of the recent situation, the trends and sources of infection

The prevalence of the Salmonella spp. in bovine meat and products is stable and similar like in previous years.

C. Salmonella spp. in broiler meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

The sampling is carried out from carcasses at slaughterhouses after chilling.

At meat processing plant

The samples were taken in the ordinary surveillance.

Frequency of the sampling

At slaughterhouse and cutting plant

Once a month

At meat processing plant

Sampling distributed evenly throughout the year

At retail

Once a month

Type of specimen taken

At slaughterhouse and cutting plant

neck skin samples

At retail

Fresh meat

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

Fifteen neck skin samples were taken randomly from 15 carcasses of broilers after chilling. A piece of approximately 10g from neck skin shall be obtained from each carcass. On each occasion the neck skin samples from three carcasses shall be pooled before examination in order to form 5 x 25g final samples. The slaughterhouses were selected so that the entire area of the Czech Republic was covered, if possible.

At meat processing plant

The samples - meat product (final product), were placed aseptically into a sample container and transfer to the laboratory.

Definition of positive finding

At slaughterhouse and cutting plant

presence of salmonella in 25 g of sample

At meat processing plant

presence of salmonella in 25 g of sample

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

At meat processing plant

Bacteriological method: ISO 6579:2002

At retail

Bacteriological method: ISO 6579:2002

Preventive measures in place

creation and control of HACCP and GHP system

Control program/mechanisms

The control program/strategies in place

The competent authority takes measures according to the legislation in force and defined cases are reported into the Rapid Alert System for Food and Feed.

Recent actions taken to control the zoonoses

SVA, NIPH and CAFIA carry out monitoring and control programs in the whole food chain and take appropriate measures according to the legislation in force to ensure safe foodstuffs.

Measures in case of the positive findings or single cases

In the case of positive result of the investigation the competent authority takes measures to prevent spreading of the infection to the food chain.

Notification system in place

The positive result of the bacteriological test has to be reported to the appropriate Regional Veterinary Administration (RVA) and the RVA has oblige to take appropriate measures. The positive results are reported to the RVA from laboratories which made the tests.

National evaluation of the recent situation, the trends and sources of infection

The prevalence of the Salmonella spp. in broiler meat and products is stable and situation is similar like in previous years.

D. Salmonella spp. in turkey meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

The sampling is carried out from carcasses at slaughterhouses after chilling. Monitoring take place in accordance with Directive 2003/99/EC.

At meat processing plant

The samples were taken in the ordinary surveillance. The final products are sampled in the end of production.

Frequency of the sampling

At slaughterhouse and cutting plant

Once a month

At meat processing plant

Sampling distributed evenly throughout the year

Type of specimen taken

At slaughterhouse and cutting plant

neck skin samples

At meat processing plant

final product

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

Fifteen neck skin samples were taken randomly from 15 carcasses of broilers after chilling. A piece of approximately 10g from neck sin shall be obtained from each carcass. On each occasion the neck skin samples from three carcasses shall be pooled before examination in order to form 5 x 25g final samples.The slaughterhouses were selected so that the entire area of the Czech Republic was covered, if possible.

At meat processing plant

the samples - one piece of final product must be placed aseptically into a sample container and transfer to the laboratory

At retail

Definition of positive finding

At slaughterhouse and cutting plant

presence of salmonella in 25 g of sample

At meat processing plant

presence of salmonella in 25 g of sample

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

At meat processing plant

Bacteriological method: ISO 6579:2002

Preventive measures in place

creation and control of HACCP and GHP system

Control program/mechanisms

The control program/strategies in place

The competent authority takes measures according to the legislation in force and defined cases are reported into the Rapid Alert System for food and feed.

Recent actions taken to control the zoonoses

SVA, NIPH and CAFIA carry out monitoring and control programs in the whole food chain and take appropriate measures according to the legislation in force to ensure safe foodstuffs.

Measures in case of the positive findings or single cases

In the case of positive result of the investigation the competent authority takes measures to prevent spreading of the infection to the food chain.

Notification system in place

The positive result of the bacteriological test has to be reported to the appropriate Regional Veterinary Administration (RVA)and the RVA has oblige to take appropriate measures. The positive results are reported to the RVA from laboratories which made the tests.

National evaluation of the recent situation, the trends and sources of infection

The prevalence of the Salmonella spp. in turkey meat and products is low and the situation is stable and similar like in previous years.

E. Salmonella spp. in food - Other food - food non animal origin - at retail - official food or feed controls - random sampling

Monitoring system

Sampling strategy

There is no official National program for monitoring of Salmonella spp. at retail. State Veterinary Administration of the Czech Republic (SVA) make the controls by whole food establishment managements in the Czech Republic.

Czech Agriculture and Food Inspection Authority (CAFIA) performed control at retail according to Commisssion Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs. Samples were collected by competent authority as part of an official sampling from all 14 regions of the Czech Republic within a year by the inspectors from the Regional inspectorates and analysed in designated laboratories for analysis samples taken during official controls (Article 12, Regulation (EC) No 882/2004). The sampling by CAFIA was random. However, in case of consumer complaints the sampling was targeted.

National Institute of Public Health (NIPH) carry out monitoring of Salmonella in food at retail level in relation to protection of public health. Samples were collected from 12 regions 4 times per year by the team of worker from the Local Public Health Centers and transported to the NIPH for bacteriological examination.

Frequency of the sampling

The samples have been taken by CAFIA during the whole year mostly randomly every 14 days.

The samples have been taken by NIPH during the whole year randomly every three months.

Type of specimen taken

food non animal and animal origin

Methods of sampling (description of sampling techniques)

Sample of one hundred grams minimum each is taken in a sterile way, into clean and dry plastic bag. The samples are placed into refrigerated container and immediately sent to the laboratory for investigation. Number of subsamples (n=5) were taken in particular food categories according to a sampling plan which is given to the Chapter 1 Food safety criteria of Commission Regulation (EC) No 2073/2005.

Definition of positive finding

A batch was considered to be positive where Salmonella spp. has been isolated from at least one single sample taken out of the batch.

Diagnostic/analytical methods used

EN ISO 6579: Microbiology of food and animal feedingstuffs - Horizontal method for the detection of Salmonella spp.

Preventive measures in place

According to Article 4 of Regulation (EC) No 852/2004, food business operators are to comply with microbiological criteria. This should include testing against the values set for the criteria through the taking of samples, the conduct of analysis and the implementation of corrective actions, in accordance with food law and the instructions given by the competent authority.

Control program/mechanisms

The control program/strategies in place

The competent authority takes measures according to the legislation in force and defined cases are reported into the Rapid Alert System for Food and Feed (RASFF).

Recent actions taken to control the zoonoses

Measures in case of the positive findings or single cases

In the case of positive result of investigation the whole batch is recalled from the retail and the competent authority takes measures to prevent spreading of the infection.

Results of the investigation

See table Salmonella in other food.

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	30	4		
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	30	3		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	240	19	3	
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	13	0		
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	176	0		
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	22	0		
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	64	9		
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	1	0		
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	25	1	1	
Meat from turkey - meat products - cooked, ready-to -eat - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	18	0		

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from turkey - meat products - cooked, ready-to -eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	5	0		
Meat from turkey - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	24	0		
Meat from duck - carcase - at slaughterhouse - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	8	0		
Meat from broilers (Gallus gallus) - carcase - at slaughterhouse - Monitoring	SVA	Census	Official sampling	food sample > neck skin		Batch	25g	750	69	3	
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	23	0		
Meat from turkey - carcase - at slaughterhouse - Monitoring	SVA	Census	Official sampling	food sample > neck skin		Batch	25g	350	10		
Meat from turkey - meat preparation - intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	16	0		
Meat from turkey - meat preparation - intended to be eaten cooked - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	10	0		

	Salmonella spp., unspecified	S. 6,7:-:1,5	S. 6,8,20:r:-	S. Agona	S. Indiana	S. Infantis	S. Kentucky	S. Mbandaka	S. Montevideo	S. Newport	S. Ohio
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance				2		2					

Table Salmonella in poultry meat and products thereof

	Salmonella spp., unspecified	S. 6,7:-:1,5	S. 6,8,20:r:-	S. Agona	S. Indiana	S. Infantis	S. Kentucky	S. Mbandaka	S. Montevideo	S. Newport	S. Ohio
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance					3						
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance				2	1	5		5		1	
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance											
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance											
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance											
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance				1	1	4	1		1		
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - Surveillance											
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - at processing plant - Surveillance											
Meat from turkey - meat products - cooked, ready-to -eat - at processing plant - Surveillance											
Meat from turkey - meat products - cooked, ready-to -eat - at retail - Surveillance											

Table Salmonella in poultry meat and products thereof

	Salmonella spp., unspecified	S. 6,7:-:1,5	S. 6,8,20:r:-	S. Agona	S. Indiana	S. Infantis	S. Kentucky	S. Mbandaka	S. Montevideo	S. Newport	S. Ohio
Meat from turkey - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance											
Meat from duck - carcase - at slaughterhouse - Surveillance											
Meat from broilers (Gallus gallus) - carcase - at slaughterhouse - Monitoring		3		13	3	29			6		11
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - at processing plant - Surveillance											
Meat from turkey - carcase - at slaughterhouse - Monitoring			1				1			6	
Meat from turkey - meat preparation - intended to be eaten cooked - at processing plant - Surveillance											
Meat from turkey - meat preparation - intended to be eaten cooked - at retail - Surveillance											

	S. Saintpaul	S. Tennessee	S. Virchow	Salmonella spp.
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance				
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance				

Table Salmonella in poultry meat and products thereof

	S. Saintpaul	S. Tennessee	S. Virchow	Salmonella spp.
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance			1	1
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance				
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance				
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance				
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance		1		
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - Surveillance				
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - at processing plant - Surveillance				
Meat from turkey - meat products - cooked, ready-to -eat - at processing plant - Surveillance				
Meat from turkey - meat products - cooked, ready-to -eat - at retail - Surveillance				
Meat from turkey - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance				

Table Salmonella in poultry meat and products thereof

	S. Saintpaul	S. Tennessee	S. Virchow	Salmonella spp.
Meat from duck - carcase - at slaughterhouse - Surveillance				
Meat from broilers (Gallus gallus) - carcase - at slaughterhouse - Monitoring		1		
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - at processing plant - Surveillance				
Meat from turkey - carcase - at slaughterhouse - Monitoring	2			
Meat from turkey - meat preparation - intended to be eaten cooked - at processing plant - Surveillance				
Meat from turkey - meat preparation - intended to be eaten cooked - at retail - Surveillance				

Table Salmonella in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Milk, cows' - raw milk - intended for direct human consumption - at farm - Surveillance	SVA	Objective sampling	Official sampling	food sample > milk		Batch	25ml	5	0		
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample > milk		Batch	25ml	40	0		
Milk, goats' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample > milk		Batch	25ml	2	0		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	15	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	5	0		
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	50	0		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	177	0		
Cheeses made from cows' milk - unspecified - at retail - Monitoring	NIPH	Census	Official sampling	food sample		Batch	25g	24	0		
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	10	0		

Table Salmonella in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	5	0		
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	6	0		
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25ml	20	0		
Dairy products (excluding cheeses) - ice-cream - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	11	0		
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	18	0		
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	187	0		
Milk, cows' - pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample > milk		Batch	25ml	11	0		

	Salmonella spp., unspecified
Milk, cows' - raw milk - intended for direct human consumption - at farm - Surveillance	

Table Salmonella in milk and dairy products

	Salmonella spp., unspecified
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	
Milk, goats' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance	
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	
Cheeses made from cows' milk - unspecified - at retail - Monitoring	
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	

Table Salmonella in milk and dairy products

	Salmonella spp., unspecified
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance	
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at processing plant - Surveillance	
Dairy products (excluding cheeses) - ice-cream - at processing plant - Surveillance	
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance	
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Surveillance	
Milk, cows' - pasteurised milk - at processing plant - Surveillance	

Table Salmonella in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Eggs - table eggs - at packing centre - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	31	0		
Eggs - table eggs - at retail - Surveillance	NIPH	Census	Official sampling	food sample		Single	25g	120	0		
Eggs - raw material (liquid egg) for egg products - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	80	4	4	
Seeds, sprouted - non-ready-to-eat - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	39	0		
Seeds, sprouted - ready-to-eat - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	4	0		
Seeds, sprouted - ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	10	0		
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	18	0		
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	33	0		
Chocolate - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	3	0		
Confectionery products and pastes - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	450	0		
Confectionery products and pastes - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	34	0		
Fishery products, unspecified - raw - at retail - Monitoring	NIPH	Census	Official sampling	food sample		Single	25g	24	0		

Table Salmonella in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Other processed food products and prepared dishes - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	8	0		
Other processed food products and prepared dishes - sandwiches - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	136	0		
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	25	0		
Ready-to-eat salads - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	128	0		
Ready-to-eat salads - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	46	0		
Sauce and dressings - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	3	0		
Sauce and dressings - mayonnaise - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	4	0		
Spices and herbs - fresh - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	14	0		
Vegetables - products - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	16	0		

	Salmonella spp., unspecified
Eggs - table eggs - at packing centre - Surveillance	
Eggs - table eggs - at retail - Surveillance	

Table Salmonella in other food

	Salmonella spp., unspecified
Eggs - raw material (liquid egg) for egg products - at processing plant - Surveillance	
Seeds, sprouted - non-ready-to-eat - at processing plant - Surveillance	
Seeds, sprouted - ready-to-eat - at processing plant - Surveillance	
Seeds, sprouted - ready-to-eat - at retail - Surveillance	
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	
Chocolate - at retail - Surveillance	
Confectionery products and pastes - at processing plant - Surveillance	
Confectionery products and pastes - at retail - Surveillance	
Fishery products, unspecified - raw - at retail - Monitoring	
Other processed food products and prepared dishes - at processing plant - Surveillance	
Other processed food products and prepared dishes - sandwiches - at processing plant - Surveillance	

Table Salmonella in other food

	Salmonella spp., unspecified
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	
Ready-to-eat salads - at processing plant - Surveillance	
Ready-to-eat salads - at retail - Surveillance	
Sauce and dressings - at retail - Surveillance	
Sauce and dressings - mayonnaise - at retail - Surveillance	
Spices and herbs - fresh - at retail - Surveillance	
Vegetables - products - at processing plant - Surveillance	

Table Salmonella in red meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from pig - minced meat - intended to be eaten raw - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	140	0		
Meat from pig - minced meat - intended to be eaten cooked - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	13	0		
Meat from pig - meat preparation - intended to be eaten raw - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	8	1		
Meat from pig - meat preparation - intended to be eaten raw - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	41	0		
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	1439	3		1
Meat from pig - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	479	2	1	
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	5	0		
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	83	0		
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	5	0		
Meat from bovine animals - minced meat - intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	17	0		
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	3	0		

Table Salmonella in red meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from bovine animals - meat preparation - intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	34	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	6	0		
Meat from bovine animals - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	61	0		
Meat from bovine animals - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	4	0		
Meat from bovine animals - meat products - cooked, ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	3	0		
Other products of animal origin - gelatin and collagen - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	15	0		
Meat from bovine animals - carcase - at slaughterhouse - Monitoring	SVA	Census	Official sampling	food sample > carcass swabs		Batch	100cm2	4644	20	1	1
Meat from bovine animals - fresh - at retail - Surveillance	NIPH	Objective sampling	Official sampling	food sample		Single	25g	24	0		
Meat from bovine animals - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance	NIPH	Objective sampling	Official sampling	food sample		Single	25g	12	0		
Meat from pig - carcase - at slaughterhouse - Monitoring	SVA	Census	Official sampling	food sample > carcass swabs		Batch	100cm2	5577	23		5
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	350	0		

Table Salmonella in red meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat, mixed meat - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	99	0		
Meat, mixed meat - meat products - fermented sausages - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	152	0		
Meat, mixed meat - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	22	2		1
Meat, mixed meat - minced meat - intended to be eaten cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	85	4	1	

	Salmonella spp., unspecified	S. 1,4,[5],12:i:-	S. 6,7:-:-	S. Agona	S. Derby	S. Infantis	S. Kapemba	S. Kentucky	S. Newport	Salmonella spp.
Meat from pig - minced meat - intended to be eaten raw - at processing plant - Surveillance										
Meat from pig - minced meat - intended to be eaten cooked - at retail - Surveillance										
Meat from pig - meat preparation - intended to be eaten raw - at processing plant - Surveillance				1						
Meat from pig - meat preparation - intended to be eaten raw - at retail - Surveillance										
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance		1			1					

Table Salmonella in red meat and products thereof

	Salmonella spp., unspecified	S. 1,4,[5],12:i:-	S. 6,7:-:-	S. Agona	S. Derby	S. Infantis	S. Kapemba	S. Kentucky	S. Newport	Salmonella spp.
Meat from pig - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance					1					
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Surveillance										
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance										
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant - Surveillance										
Meat from bovine animals - minced meat - intended to be eaten cooked - at processing plant - Surveillance										
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - Surveillance										
Meat from bovine animals - meat preparation - intended to be eaten cooked - at processing plant - Surveillance										
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - Surveillance										
Meat from bovine animals - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance										
Meat from bovine animals - meat products - cooked, ready-to-eat - at processing plant - Surveillance										

Table Salmonella in red meat and products thereof

	Salmonella spp., unspecified	S. 1,4,[5],12:i:-	S. 6,7:-:-	S. Agona	S. Derby	S. Infantis	S. Kapemba	S. Kentucky	S. Newport	Salmonella spp.
Meat from bovine animals - meat products - cooked, ready-to-eat - at retail - Surveillance										
Other products of animal origin - gelatin and collagen - at processing plant - Surveillance										
Meat from bovine animals - carcase - at slaughterhouse - Monitoring		3	1	3	6	1			4	
Meat from bovine animals - fresh - at retail - Surveillance										
Meat from bovine animals - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance										
Meat from pig - carcase - at slaughterhouse - Monitoring					18					
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance										
Meat, mixed meat - meat products - cooked, ready-to-eat - at processing plant - Surveillance										
Meat, mixed meat - meat products - fermented sausages - at processing plant - Surveillance										
Meat, mixed meat - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance										1
Meat, mixed meat - minced meat - intended to be eaten cooked - at processing plant - Surveillance		1			1		1			

Table Salmonella in red meat and products thereof

2.1.4 Salmonella in animals

A. Salmonella spp. in Gallus Gallus - breeding flocks

Monitoring system

Sampling strategy

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

The sampling strategy was in accordance with Regulation (EC) No 2160/2003 of the European Parliament and the Concil and Commission Regulation (EC) 200/2010.

Frequency of the sampling

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

Every flock is sampled

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

4 weeks

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

2 weeks

Type of specimen taken

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

Internal linings of delivery boxes

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

Faeces

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

Faeces

Methods of sampling (description of sampling techniques)

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

At day-old chicks after transport are taken samples from internal wall of transport boxes, 10 swabs from each delivery. All fallen chicks (max. 60) were tested as well.

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

Pooled samples from faces (each weighing not less than 1 g) with regard on the number of birds in the building. 250 - 349 birds 200 samples, 350 - 449 birds 220 samples, 450 - 799 birds 250 samples, 800 - 999 birds 260 samples, 1000 and more birds 300 samples. Faeces may be poled for analysis up to a minimum of two pools and also the boot swabs may be poled for analysis into a minimum of two pools and separately tested.

Breeding flocks: Production period

Pooled samples from faces (each weighing not less than 1 g) with regard on the number of birds in the building. 250 - 349 birds 200 samples, 350 - 449 birds 220 samples, 450 - 799 birds 250 samples, 800 - 999 birds 260 samples, 1000 and more birds 300 samples. Faeces may be poled for analysis up to a minimum of two pools and also the boot swabs may be poled for analysis into a minimum of two pools and separately tested.

Case definition

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

The breeding flock is considered as infected with Salmonella enteritidis and Salmonella typhimurium when the presence of Salmonella is detected in official sample or when the initial positive result of operator sampling is confirmed by positive result of official sample taken in order to exclude the false positive result of operator sampling. The confirmation method is based on technical specifications referred to in Article 5 of Commission Decision 2004/665/EC (5 pooled faeces samples and 2 pooled dust samples separately analysed).

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

The breeding flock is considered as infected with Salmonella enteritidis and Salmonella typhimurium when the presence of Salmonella is detected in official sample or when the initial positive result of operator sampling is confirmed by positive result of official sample taken in order to exclude the false positive result of operator sampling. The confirmation method is based on technical specifications referred to in Article 5 of Commission Decision 2004/665/EC (5 pooled faeces samples and 2 pooled dust samples separately analysed).

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

The breeding flock is considered as infected with Salmonella enteritidis and Salmonella typhimurium when the presence of Salmonella is detected in official sample or when the initial positive result of operator sampling is confirmed by positive result of official sample taken in order to exclude the false positive result of operator sampling. The confirmation method is based on technical specifications referred to in Article 5 of Commission Decision 2004/665/EC (5 pooled faeces samples and 2 pooled dust samples separately analysed).

Diagnostic/analytical methods used

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

Bacteriological method: ISO 6579:2002

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

Bacteriological method: ISO 6579:2002

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

Bacteriological method: ISO 6579:2002

Vaccination policy

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

Vaccination against Salmonella enteritidis was mandatory since 1st January 2007. Before 1st January 2007 the vaccination was carry out on voluntary basis. Since 1st January 2011 vaccination against Salmonella enteritidis is voluntary.

Control program/mechanisms

The control program/strategies in place

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

Aim of the programme is to monitor, on the basis of sampling in all poultry flocks, occurrence of invasive serotypes of S. enteritidis, S. typhimurium, S. infantis, S. virchow and S. hadar, and to take measures aimed in particular at the protection of public health, as well as health of other poultry populations. To ensure the reduction of percentage of positive breeding poultry flocks up to1%.

Official checks at the level of poultry flocks are organized and carried out by the relevant Regional Veterinary Administrations (RVA), which also take measures in the case of positive results.
Sampling in poultry flocks is carried out by farmers or private veterinarians. Official confirmation samples

are taken and sent to the laboratory examination by official veterinarians from the relevant RVA.

Legal basis of the programme
The programme has been approved by the Commision.
Legal basis of the programme represent the following pieces of legislation:

a) Regulation (EC) No 2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of salmonella and other specified food-borne zoonotic agents, on the basis of which must Member States draw up national programmes for control of salmonellae.
b) Commission Regulation (EC) No 200/2010 of 10 March 2010 implementing Regulation (EC) No 2160/2003 as regards a Community target for the reduction of the prevalence of salmonella serotypes in adult breeding flocks of Gallus gallus and amending Regulation (EC) No 2160/2003;
c) Commission Regulation (EU) No 517/2011 of 25 May 2011implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards a Union target for the reduction of the prevalence of certain Salmonella serotypes in laying hens of Gallus gallus and amending Regulation (EC) No 2160/2003 and Commission Regulation (EU) No 200/2010;
d) Commission Regulation (EC) No 1003/2005 of 30 June 2005 implementing Regulation (EC) No 2160/2003 as regards a Community target for the reduction of the prevalence of certain salmonella serotypes in breeding flocks of Gallus gallus and amending Regulation (EC) No 2160/2003.
e) Act No 166/1999 concerning veterinary care and amending certain related laws (Veterinary Act), as amended.
f) Decree of the Ministry of Agriculture No 356/2004 concerning monitoring of zoonoses and zoonotic agents and amending Decree No 299/2003 concerning measures for prevention and eradication of contagious diseases and diseases communicable from animals to man.

Measures in case of the positive findings or single cases

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

Measures taken following the detection of S. enteritidis and/or S. typhimurium in
faecal samples taken by a farmer:
In order to exclude false - positive initial results from the samples taken by operator, the relevant RVA carried out official sampling after positive result in samples taken by operator. Sampling is carried out according to Annex 1, 4 (b)(i) of Commission Regulation No 1237/2007, amending Regulation EC No 2160/2003 of the European Parliament and of the Council and Decision 2006/696/EC and it is based on the technical specifications referred to in Article 5 of Commission Decision 2004/665/EC (seven samples); all samples of faeces and dust must be analysed separately.
In the case of a suspicion on the presence of inhibitory substances, the laboratory shall perform a confirmatory test, in order to exclude the use of antibiotics likely to affect the results of the confirmatory analysis.
Pending the completion of the confirmatory examination, the RVA shall impose at least the following measures:
a) bacteriological analysis of feeds and water, if necessary, for the detection Salmonella spp.;
b) in the case of a positive result of the detection of S. enteritidis and/or S. typhimurium, hatching eggs shall be suspended pending the completion of the confirmatory analyses;
c) a thorough mechanical cleansing and disinfection of the house, as well as other premises (e.g. stores of feeds and litter), shall be performed. A thorough mechanical cleansing of halls and technologies, followed by disinfection and safe disposal of faeces or litter shall be performed on completion of each production cycle.
In the case of a negative result of the confirmatory examination the flock shall be considered negative.
Measures taken in the case of positive official samples and positive confirmatory examinations for S.

enteritidis and/or S. typhimurium:
The RVA shall perform an epidemiological investigation in the holding, aimed at the detection of the possible source of the infection and shall impose at least that:
a)Bacteriological examination of feeds and water for the detection Salmonella spp. is performed, if necessary;
b)All birds, including day-old chicks, in the positive flock must be slaughtered or destroyed so as to reduce as much as possible the risk of Salmonella spreading. Slaughtering must be carried out in accordance with Community legislation on food hygiene. By-products derived from such birds and not intended for human consumption, must be disposed in accordance with Regulation (EC) of the European Parliament and of the Council No 1069/2009 laying down health rules concerning animal by-products not indented for human consumption;
c)Non-incubated eggs must be destroyed;
d)Where eggs for hatching are still present in a hatchery, they must be destroyed or treated in accordance with Regulation (EC) of the European Parliament and of the Council No 1069/2009;
e)After slaughtering or destruction of birds from infected flocks, a thorough cleansing and disinfection, as well as disposal of faeces or litter, must be performed in accordance with the instructions of the relevant RVA;
f)The relevant RVA performs the supervision on the efficacy of the disinfection carried out by the farmer; the checks on the efficacy of the disinfection shall be performed by means of bacteriological testing of swabs, in accordance with the method specified by the NRL;
g)All others flocks at the holding are officially sampled.

Notification system in place

Notification system is lay down by the Act No 166/1999 of 13 July 1999 on veterinary care and amending certain related laws (Veterinary Act), as amended.

B. Salmonella spp. in Gallus Gallus - broiler flocks

Monitoring system

Sampling strategy

Broiler flocks

Sampling strategy and the aim of the programme is in compliance with the Regulation (EC) No 2160/2003 of the European Parliament and of the Council.
The aim of the programme is to reduce the percentage of flocks of broilers remaining positive of Salmonella enteritidis and Salmonella typhimurium to 1 %.
The aim of the national programme is established in accordance with the Community target pursuant to Article 4(1) of Regulation (EC) No 2160/2003 aimed at reduction of the prevalence of Salmonella enteritidis and Salmonella typhimurium in broilers as specified by Commission Regulation (EC) No 200/2012. The epidemiology unit for the control programme is flock of poultry as defined in Article 2 (3b) of Regulation EC 2160/2003.
Monophasic Salmonella typhimurium, serotypes with the antigenic formula 1,4,[5],12:i:- is included in the programme in line with the Union target.

Frequency of the sampling

Broiler flocks: Before slaughter at farm

3 weeks prior to slaughter

Type of specimen taken

Broiler flocks: Before slaughter at farm

Faeces

Methods of sampling (description of sampling techniques)

Broiler flocks: Before slaughter at farm

Two pairs of boot/socks swabs were taken. For free range flocks of broilers, samples were collected in the area inside the house. All boot/sock swabs were pooled into one sample. In flocks with less than 100 broilers, where it is not possible to use boot/sock swabs as access to the houses is not possible, they may be replaced by hand drag swabs, where the boot swabs or socks are worn over gloved hands and rubbed over surfaces contaminated with fresh faeces. Before putting on the boot/sock swabs, their surface was 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 at the SVI in Prague. All sections in a house are represented in the sampling in a proportionate way. Each pair must cover about 50 % of the area of the house. On completion of sampling the boot/sock swabs were carefully removed so as not to dislodge adherent material. Boot swabs were inverted to retain material. They were placed in a bag or pot and labelled.
The RVA perform training of operators and/or other persons designated by farmers to guarantee the correct application of the sampling protocol.

Case definition

Broiler flocks: Before slaughter at farm

A flock of broilers is considered positive for the purpose of verifying the achievement of the Community target, where the presence of Salmonella enteritidis and/or Salmonella typhimurium (other than vaccine strains) was detected in the flock at any occasion.

Diagnostic/analytical methods used

Broiler flocks: Before slaughter at farm

Bacteriological method: ISO 6579:2002

Vaccination policy

Broiler flocks

Vaccination is voluntary and in practise is not performed in broilers flocks.Breeding flocks in meet production line are vaccinated voluntary against S. enteritidis.

Control program/mechanisms

The control program/strategies in place

Broiler flocks

The main objectives of the programme are monitoring and control of zoonotic Salmonella serotype (S. enteritidis, S. typhimurium) in the poultry broilers flocks.
Frequency and status of sampling in the programme are in accordance with sampling requirements laid down in part B of Annex II to Regulation (EC) No 2160/2003 of the European Parliament and of the Council and specified by Commission Regulation (EC) No 646/2007.
Sampling in poultry flocks is carried out by an operator and/or by a private veterinarian. Only named and approved laboratories of the State Veterinary Institutes carry out the examination and validated methods of bacteriological examination are used. The testing (samples taken by operators and official veterinarians) is performed in the NRL in SVI Prague and in SVIs in Jihlava and Olomouc. The using of the appropriate methods is co-ordinated and under the control of the National Reference Laboratory for salmonella at the SVI in Prague. The NRL for Salmonella will be team up with CRL.
The central authority competent for supervising and coordinating all activities in veterinary care is the State Veterinary Administration, which performs its powers at the whole territory of the Czech Republic (Â§ 47, Veterinary Act No 166/1999 Col. of Acts). SVA of the CR coordinates the activities of Regional Veterinary Administrations and lay down Methodology for Animal Health Control.

Legal basis

•Commission regulation (EC) NO 2160/2003 of 17 November 2003 on the control of salmonella and other specified food-borne zoonotic agents;

•Commission regulation (EC) No 1177/2006 of 1 August 2006 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards requirements for the use of specific control methods in the framework of the national programmes for the control of salmonella in poultry;

•Commission Regulation (EC) No 646/2007 of 12 June 2007 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards a Community target for the reduction of the prevalence of Salmonella enteritidis and Salmonella typhimurium in broilers and repealing Regulation (EC) No 1091/2005;

•Commission Regulation (EC) No 200/2010 of 10 March 2010 implementing Regulation (EC) No. 2160/2003 as regards a Community target for the reduction of the prevalence of salmonella serotypes in adult breeding flocks of Gallus gallus and amending Regulation (EC) No 2160/2003;

•Commission Regulation (EU) No 517/2011 of 25 May 2011implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards a Union target for the reduction of the prevalence of certain Salmonella serotypes in laying hens of Gallus gallus and amending Regulation (EC) No 2160/2003 and Commission Regulation (EU) No 200/2010.

•Commission Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for

foodstuffs;

•Commission Regulation (EC) No 1091/2005/ES of 12 July 2005 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards requirements for the use of specific control methods in the framework of the national programmes for the control of salmonella;

•Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs;

•Act No 166/1999 concerning veterinary care and amending certain related laws (Veterinary Act), as amended;

•Act No 154/2000 concerning pedigree breeding, breeding and registration of farm animals and amending certain related laws (Breeding Act), as amended;

•Act No 146/2002 concerning the Czech Agriculture and Food Inspection Authority and amending certain related laws, as amended;

•Act No 20/1966 concerning public health care, as amended;

•Decree No 356/2004 concerning the monitoring of zoonoses and zoonotic agents and amending Decree No 299/2003 concerning measures for prevention and eradication of contagious diseases and diseases communicable from animals to man;

•Decree No 296/2003 concerning animal health and its protection, animal movement and transportation and authorisation and professional qualification for performance of certain professional veterinary activities, as amended;

•Decree No 136/2004 specifying in detail identification and registration of animals, registration of holdings and persons specified by Breeding Act;

Measures in case of the positive findings or single cases

Broiler flocks: Before slaughter at farm

- Farmer shall record the result into the “Food Chain Information” at the dispatch of broilers to a slaughterhouse.
- Farmer shall perform a check on efficacy of preventive measures aimed at bio-safety of the holding.
- Farmer shall take samples of feedingstuffs from bins; the samples shall be sent for laboratory examination for the detection of Salmonella spp.
- A thorough mechanical cleansing, disinfection, disinsectisation and rat extermination shall be performed following dispatch of broilers to a slaughterhouse; as well as safe disposal of faeces or litter.
- Farmer shall take swab samples for laboratory check on efficacy of disinfection.
- New birds may be introduced only upon laboratory confirmation of efficacy of disinfection.

Notification system in place

Notification system is lay down by the Act No. 166/1999 of 13 July 1999 on veterinary care and amending certain related laws (Veterinary Act), as amended.

C. Salmonella spp. in Gallus Gallus - flocks of laying hens

Monitoring system

Sampling strategy

Laying hens flocks

The sampling strategy was in accordance Regulation (EC) No. 2160/2003 of the European Parliament and the Concil.

National Control Programme was started From 1 st January 2007. The National control programme was imposed one year earliear than is set up in EU legislation. The aim of the National Control Programme for Salmonella Infections in Laying Hens (Gallus gallus) producing table eggs is reduction of the prevalence of Salmonella enteritidis and Salmonella typhimurium in laying hens flocks and to ensure that adequate and effective measures for monitoring and control of salmonella infections are taken in laying flocks. The reduction of the prevalence of the Salmonella in laying hens flocks is focused on achievement of the targets laying down in Commission Regulation (EC) No 1168/2006 and in the Commission Regulation (EC) No 517/2011.

Frequency of the sampling

Laying hens: Day-old chicks

Every flock is sampled

Laying hens: Rearing period

2 weeks prior to moving

Laying hens: Production period

15 weeks

Type of specimen taken

Laying hens: Day-old chicks

Internal linings of delivery boxes

Laying hens: Rearing period

Faeces

Laying hens: Production period

Faeces

Methods of sampling (description of sampling techniques)

Laying hens: Day-old chicks

At one day-old chicks after transport are taken samples from internal wall of transport boxes, 10 swabs from each delivery. All fallen chicks (max. 60) were tested as well.

Laying hens: Rearing period

a)in cage flocks, 2 × 150 grams of naturally pooled faeces were 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 × 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 were taken, without changing overboots between boot swabs.

Laying hens: Production period

a)in cage flocks, 2 × 150 grams of naturally pooled faeces were 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 × 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 were taken, without changing overboots between boot swabs.
In the case of official sampling, 3 × 150 grams of naturally polled faeces in cage flocks or 3 pairs of boot swabs in barn or free-range houses shall be collected. Individual samples must be analysed at the laboratory separately.

Case definition

Laying hens: Day-old chicks

The flock of laying hens is considered positive for S. enteritidis or S. typhimurium in the case of positive result of official sampling or in the case of positive result of official sample taken in order to exclude the false positive result of operator sampling. The confirmation method is based on technical specifications referred to in Article 5 of Commission Decision 2004/665/EC (5 pooled faeces samples and 2 pooled dust samples analysed separately).

Laying hens: Rearing period

The flock of laying hens is considered positive for S. enteritidis or S. typhimurium in the case of positive result of official sampling or in the case of positive result of official sample taken in order to exclude the false positive result of operator sampling. The confirmation method is based on technical specifications referred to in Article 5 of Commission Decision 2004/665/EC (5 pooled faeces samples and 2 pooled dust samples analysed separately).

Laying hens: Production period

The flock of laying hens is considered positive for S. enteritidis or S. typhimurium in the case of positive result of official sampling or in the case of positive result of official sample taken in order to exclude the false positive result of operator sampling. The confirmation method is based on technical specifications referred to in Article 5 of Commission Decision 2004/665/EC (5 pooled faeces samples and 2 pooled dust samples analysed separately).

Diagnostic/analytical methods used

Laying hens: Day-old chicks

Bacteriological method: ISO 6579:2002

Laying hens: Rearing period

Bacteriological method: ISO 6579:2002

Laying hens: Production period

Bacteriological method: ISO 6579:2002

Vaccination policy

Laying hens flocks

Vaccination against Salmonella enteritidis in laying hens flocks producing table eggs is mandatory since 1st January 2007.

Control program/mechanisms

The control program/strategies in place

Laying hens flocks

The aim of the National Control Programme for Salmonella Infections in Laying Hens (Gallus gallus) producing table eggs, to be applied from the year 2008 is reduction of the prevalence of Salmonella enteritidis and Salmonella typhimurium in laying hens flocks and to ensure that adequate and effective measures for monitoring and control of salmonella infections are taken in laying flocks. The reduction of the prevalence of the Salmonella in laying hens flocks will be focused on achievement of the targets laying down in the Commission Regulation (EC) No 1168/2006 and in the Commission Regulation (EC) No 517/2011.

The central authority competent for supervising and coordinating all activities in veterinary care is the State Veterinary Administration, which performs its powers at the whole territory of the Czech Republic (Â§ 47, Veterinary Act No 166/1999 Col. of Acts). SVA of the CR coordinates the activities of Regional Veterinary Administrations and lay down Methodology for Animal Health Control.

Legal basis

a)Regulation (EC) No 2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of salmonella and other specified food-borne zoonotic agents;

b)Commission Regulation (EC) No 1177/2006 of 1 August 2006 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards requirements for the use of specific control methods in the framework of the national programmes for the control of salmonella in poultry;

c)Commission Regulation (EC) No 1168/2006 of 31 July 2006 implementing Regulation (EC) No 2160/2003 as regards a Community target for the reduction of the prevalence of certain salmonella serotypes in laying hens of Gallus Gallus and amending Regulation (EC) No 1003/2005;

d)Commission Regulation (EU) No 517/2011 of 25 May 2011implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards a Union target for the reduction of the prevalence of certain Salmonella serotypes in laying hens of Gallus gallus and amending Regulation (EC) No 2160/2003 and Commission Regulation (EU) No 200/2010.

e)Commission Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs;

f)Commission Regulation (EC) No 1091/2005 of 12 July 2005 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards requirements for the use of specific control methods in the framework of the national programmes for the control of salmonella;

g)Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs;

h)Directive 2003/99/EC of the European Parliament and of the Council of 17 November 2003 on the monitoring of zoonoses and zoonotic agents, amending Council Decision 90/424/EEC and repealing Council Directive 92/117/EEC;

i)Act No. 166/1999 concerning veterinary care and amending certain related laws, as amended (Veterinary Act);

j)Act No 154/2000 concerning pedigree breeding, breeding and registration of farm animals and amending certain related laws, as amended (Breeding Act);

k)Act No 146/2002 concerning the Czech Agriculture and Food Inspection Authority and amending certain related laws, as amended;

l)Act No 20/1966 concerning public health care, as amended;

m)Decree No 356/2004 concerning the monitoring of zoonoses and zoonotic agents and amending Decree No. 299/2003 concerning measures for prevention and eradication of contagious diseases and diseases communicable from animals to man;

n)Decree No 296/2003 concerning animal health and its protection, animal movement and transportation and authorization and professional qualification for performance of certain professional veterinary activities;

o) Decree No 136/2004 laying down details for identification of animals and their registration and

registration of holdings and person designated by Breeding Act.

Measures in case of the positive findings or single cases

Laying hens flocks

Measures taken in the case of salmonella detection (S. enteritidis and/or S. typhimurium) in faeces:

The relevant RVA shall order at least the following measures:

1) Table eggs coming from infected flocks may be used for human consumption only if treated in a manner that guarantees the destruction of all Salmonella serotypes with public health significance in accordance with Community legislation on food hygiene;

Eggs shall be:
(a) considered as Class B eggs as defined in Article 2(4) of Commission Regulation (EC) No 557/2007 laying down detailed rules for implementing Council Regulation (EC) No 1028/2006 on marketing standards for eggs (1);

(b) Marked with the indication referred to in Article 10 of Commission Regulation (EC) No 557/2007 which clearly distinguishes them from Class A eggs prior to being placed on the market.
(c) Prohibited access to packaging centres unless the competent authority is satisfied with the measures to pre-vent possible cross-contamination of eggs from other flocks.

2) In order to exclude false - positive initial results from the samples taken by operator, the relevant RVA carried out official sampling after positive result in samples taken by operator. Sampling is carried out according to Annex 1, 4 (b)(i) of Commission Regulation No 1237/2007, amending Regulation EC No 2160/2003 of the European Parliament and of the Council and Decision 2006/696/EC and it is based on the technical specifications referred to in Article 5 of Commission Decision 2004/665/EC (seven samples); all samples of faeces and dust must be analysed separately.

In the case of a suspicion on the presence of inhibitory substances, the laboratory shall perform a confirmatory test, in order to exclude the use of antibiotics likely to affect the results of the confirmatory analysis.

Measures taken in the case of confirmation of the infection:
•In the case of positive result of the confirmatory examination, the flock in question is considered infected. Safe disposal of poultry showing clinical signs is performed; in other poultry targeted effective treatment, including use of probiotics or acidification of water and feeds, is recommended;
•When birds from infected flocks are slaughtered or destroyed, steps must be taken to reduce the risk of spreading zoonoses as far as possible. Slaughtering is carried out in accordance with Community legislation on food hygiene. Products derived from such birds may be placed on the market for human consumption 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 1069/2009;
•Thorough cleansing and disinfection, including safe removal of faeces or litter must be performed after slaughtering or killing of poultry from infected flocks;
•Table eggs coming from infected flocks may be used for human consumption only after their in a way ensuring that they are completely free of all salmonella serotypes of public health relevance, in accordance with food hygiene legislation;
•Performance of further bacteriological examination of feed and water for the presence of Salmonella spp., if necessary;

Notification system in place

Notification system is lay down by the Act No. 166/1999 of 13 July 1999 on veterinary care and amending certain related laws (Veterinary Act), as amended.

D. Salmonella spp. in turkey - breeding flocks and meat production flocks

Monitoring system

Sampling strategy

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

The sampling strategy is in accordance with Regulation (EC) No 2160/2003 o f the European Parliament ane the Council. Frequency and status of sampling is in compliance with Commission Regulation (EC) No 646/2007 and in compliance with Commission Regulation (EC) No 584/2008.

Meat production flocks

The sampling strategy is in accordance with Regulation (EC) No 2160/2003 o f the European Parliament ane the Council. Frequency and status of sampling is in compliance with Commission Regulation (EC) No 646/2007 and in compliance with Commission Regulation (EC) No 584/2008.

Frequency of the sampling

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

Every flock is sampled

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

At the age of __4__ weeks

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

Every ___3_ weeks

Meat production flocks: Before slaughter at farm

___3_ weeks prior to slaughter

Type of specimen taken

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

Internal linings of delivery boxes

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

Faeces

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

Faeces

Meat production flocks: Before slaughter at farm

Faeces

Methods of sampling (description of sampling techniques)

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

10 swabs from internal surfaces of at least 10 boxes or baskets used for the transport of day-old turkeys. The swabs shall be taken after the arrival of the turkeys to the holding, prior to their unloading. All swabs must be pooled into one sample. When the turkeys come from two different hatcheries, a separate pooled sample shall be prepared for each hatchery. When the turkeys are delivered within several days, samples are taken each day according to the above mentioned scheme;

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

Samples shall be taken in accordance with one of the following methods:
A. Pooled faecal samples:
Separate samples of fresh faeces each weighing not less than 1 g shall be taken at random from the

number of sites indicated in the following table:

Number of birds in the flock	Number of faecal samples to be taken from the flock
250 – 349	200
350 – 449	220
450 – 799	250
800 – 999	260
1 000 and more	300

Faeces may be pooled for analysis up to a minimum of two pools.
or:
B. Five pairs of boot swabs:
Boot swabs used shall be sufficiently absorptive to soak up moisture. Tubegauze "socks" are also acceptable. The surface of the boot swab shall be moistened using appropriate diluent (e.g. 0.8 % sodium chloride, 0.1 % peptone in sterile deionised water, or sterile water). Walking around shall be done in a manner which will sample representatively all parts of the sector, including littered and slatted areas when slats are safe to walk on. All separate pens within a house shall be included in the sampling. On completion of sampling, boot swabs must be removed carefully so as not to dislodge adherent material. The boot swabs may be pooled for analysis into a minimum of two pools.

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

Samples shall be taken in accordance with one of the following methods:
A. Pooled faecal samples:
Separate samples of fresh faeces each weighing not less than 1 g shall be taken at random from the number of sites indicated in the following table:

Number of birds in the flock	Number of faecal samples to be taken from the flock
250 – 349	200
350 – 449	220
450 – 799	250
800 – 999	260
1 000 and more	300

Faeces may be pooled for analysis up to a minimum of two pools.
or:
B. Five pairs of boot swabs:
Boot swabs used shall be sufficiently absorptive to soak up moisture. Tubegauze "socks" are also acceptable. The surface of the boot swab shall be moistened using appropriate diluent (e.g. 0.8 % sodium chloride, 0.1 % peptone in sterile deionised water, or sterile water). Walking around shall be done in a manner which will sample representatively all parts of the sector, including littered and slatted areas when slats are safe to walk on. All separate pens within a house shall be included in the sampling. On completion of sampling, boot swabs must be removed carefully so as not to dislodge adherent material. The boot swabs may be pooled for analysis into a minimum of two pools.

Meat production flocks: Before slaughter at farm

-Two pairs of boot/socks swabs shall be taken. For free range flocks of turkeys, samples shall only be collected in the area inside the house. All boot/sock swabs must be pooled into one sample.
-In flocks with less than 100 turkeys, where it is not possible to use boot/sock swabs as access to the houses is not possible, they may be replaced by hand drag swabs, where the boot swabs or socks are

worn over gloved hands and rubbed over surfaces contaminated with fresh faeces.
-Before putting on the boot/sock swabs, their surface shall be moistened with maximum recovery diluents (MRD: 0.8 % sodium chloride, 0.1 % peptone in sterile deionised water), or sterile water or any other diluent approved by the National Reference Laboratory at the SVI in Prague.
-The use of water containing antimicrobials or additional disinfectants shall be prohibited. The recommended way to moisten boot swabs shall be to pour the liquid inside before putting them on. Alternatively, boot swabs or socks may be autoclaved with diluents within autoclave bags or jars before use. Diluents may also be applied after boots are put on using a spray or wash bottle.
-It shall be ensured that all sections in a house are represented in the sampling in a proportionate way. Each pair should cover about 50 % of the area of the house. On completion of sampling the boot/sock swabs shall be carefully removed so as not to dislodge adherent material. Boot swabs may be inverted to retain material. They shall be placed in a bag or pot and labelled.
-The RVA shall perform training of farmers and/or other persons designated by farmers to guarantee the correct application of the sampling protocol.

Case definition

A flock of turkeys is considered positive for the purpose of verifying the achievement of the Community target, where the presence of Salmonella enteritidis and/or Salmonella typhimurium (other than vaccine strains) was detected in the flock at any occasion.

Positive flocks are recorded only once, irrespective of the number of sampling and testing performed. The salmonella prevalence is calculated separately for flocks of fattening turkeys and flocks of adult breeding turkeys.

Monitoring system

Case definition

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

The breeding flock is considered as infected with Salmonella enteritidis and Salmonella typhimurium when the presence of Salmonella is detected in official sample or when the initial positive result of operator sampling is confirmed by positive result of official sample taken in order to exclude the false positive result of operator sampling. The confirmation method is based on technical specifications referred to in Article 5 of Commission Decision 2004/665/EC (5 pooled faeces samples and 2 pooled dust samples separately analysed).

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

The breeding flock is considered as infected with Salmonella enteritidis and Salmonella typhimurium when the presence of Salmonella is detected in official sample or when the initial positive result of operator sampling is confirmed by positive result of official sample taken in order to exclude the false positive result of operator sampling. The confirmation method is based on technical specifications referred to in Article 5 of Commission Decision 2004/665/EC (5 pooled faeces samples and 2 pooled dust samples separately analysed).

Meat production flocks: Before slaughter at farm

A flock of turkeys is considered positive for the purpose of verifying the achievement of the Community target, where the presence of Salmonella enteritidis and/or Salmonella typhimurium (other than vaccine strains) was detected in the flock at any occasion.

Diagnostic/analytical methods used

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

Bacteriological method: ISO 6579:2002

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

Bacteriological method: ISO 6579:2002

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

Bacteriological method: ISO 6579:2002

Meat production flocks: Day-old chicks

Bacteriological method: ISO 6579:2002

Meat production flocks: Before slaughter at farm

Bacteriological method: ISO 6579:2002

Vaccination policy

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

Vaccination of breeding and fattening turkeys against salmonella is voluntary.

Control program/mechanisms

The control program/strategies in place

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

The programme is applied since 1 January 2010. The programme is applied within the entire territory of the Czech Republic. The programme is carrying out in accordance with Regulation of the European Parliament and of the Council 2160/2003/EC and with approved National Salmonella Control Programme. Duration of the programme is laid down for 3 years (2010 – 2012). Year 2011 is the second year of implementation of the programme. The competent authority responsible for performing of the programme is the State Veterinary Administration of the Czech Republic. Sampling in poultry flocks is carried out by an operator or by a private veterinarian. Only named and approved laboratories of the State Veterinary Institutes carry out the examination and validated methods of bacteriological examination are used. Official checks at the level of poultry flocks are organised and carried out by the relevant Regional Veterinary Administration.

The national salmonella control programme is in accordance with:

Commission regulation (EC) NO 2160/2003 of 17 November 2003 on the control of salmonella and other specified food-borne zoonotic agents;

Commission regulation (EC) No 1177/2006 of 1 August 2006 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards requirements for the use of specific control methods in the framework of the national programmes for the control of salmonella in poultry;

Commission Regulation (EC) No 584/2008 of 20 June 2008 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards a Community target for the reduction of the prevalence of Salmonella enteritidis and Salmonella typhimurium in turkeys;

Commission Regulation (EC) No 200/2010 of 10 March 2010 implementing Regulation (EC) No. 2160/2003 as regards a Community target for the reduction of the prevalence of salmonella serotypes in adult breeding flocks of Gallus gallus and amending Regulation (EC) No 2160/2003;

Commission Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for

foodstuffs;

Commission Regulation (EC) No 1091/2005/ES of 12 July 2005 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards requirements for the use of specific control methods in the framework of the national programmes for the control of salmonella;

Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs;

Act No 166/1999 concerning veterinary care and amending certain related laws (Veterinary Act), as amended;

Act No 154/2000 concerning pedigree breeding, breeding and registration of farm animals and amending certain related laws (Breeding Act), as amended;

Act No 146/2002 concerning the Czech Agriculture and Food Inspection Authority and amending certain related laws, as amended;

Act No 20/1966 concerning public health care, as amended;

Decree No 356/2004 concerning the monitoring of zoonoses and zoonotic agents and amending Decree No 299/2003 concerning measures for prevention and eradication of contagious diseases and diseases communicable from animals to man;

Decree No 296/2003 concerning animal health and its protection, animal movement and transportation and authorisation and professional qualification for performance of certain professional veterinary activities, as amended;

Decree No 136/2004 specifying in detail identification and registration of animals, registration of holdings and persons specified by Breeding Act.

Meat production flocks

The programme is applied since 1 January 2010. The programme is applied within the entire territory of the Czech Republic. The programme is carrying out in accordance with Regulation of the European Parliament and of the Council 2160/2003/EC and with approved National Salmonella Control Programme. Duration of the programme is laid down for 3 years (2010 – 2012). Year 2011 is the second year of implementation of the programme. The competent authority responsible for performing of the programme is the State Veterinary Administration of the Czech Republic. Sampling in poultry flocks is carried out by an operator or by a private veterinarian. Only named and approved laboratories of the State Veterinary Institutes carry out the examination and validated methods of bacteriological examination are used. Official checks at the level of poultry flocks are organised and carried out by the relevant Regional Veterinary Administration.

The national salmonella control programme is in accordance with:

Commission regulation (EC) NO 2160/2003 of 17 November 2003 on the control of salmonella and other specified food-borne zoonotic agents;

Commission regulation (EC) No 1177/2006 of 1 August 2006 implementing Regulation (EC) No

2160/2003 of the European Parliament and of the Council as regards requirements for the use of specific control methods in the framework of the national programmes for the control of salmonella in poultry;

Commission Regulation (EC) No 584/2008 of 20 June 2008 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards a Community target for the reduction of the prevalence of Salmonella enteritidis and Salmonella typhimurium in turkeys;

Commission Regulation (EC) No 200/2010 of 10 March 2010 implementing Regulation (EC) No. 2160/2003 as regards a Community target for the reduction of the prevalence of salmonella serotypes in adult breeding flocks of Gallus gallus and amending Regulation (EC) No 2160/2003;

Commission Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs;

Commission Regulation (EC) No 1091/2005/ES of 12 July 2005 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards requirements for the use of specific control methods in the framework of the national programmes for the control of salmonella;

Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs;

Act No 166/1999 concerning veterinary care and amending certain related laws (Veterinary Act), as amended;

Act No 154/2000 concerning pedigree breeding, breeding and registration of farm animals and amending certain related laws (Breeding Act), as amended;

Act No 146/2002 concerning the Czech Agriculture and Food Inspection Authority and amending certain related laws, as amended;

Act No 20/1966 concerning public health care, as amended;

Decree No 356/2004 concerning the monitoring of zoonoses and zoonotic agents and amending Decree No 299/2003 concerning measures for prevention and eradication of contagious diseases and diseases communicable from animals to man;

Decree No 296/2003 concerning animal health and its protection, animal movement and transportation and authorisation and professional qualification for performance of certain professional veterinary activities, as amended;

Decree No 136/2004 specifying in detail identification and registration of animals, registration of holdings and persons specified by Breeding Act.

Measures in case of the positive findings or single cases

Breeding flocks:
a)Measures taken following the detection of S. enteritidis and/or S. typhimurium in faecal samples taken by a farmer:
In the case of the presence of monitored salmonella serovars (S. enteritidis, S. typhimurium) in faecal

samples taken by a farmer, an official sampling shall be performed by an official veterinarian from the RVA in each positive flock, in order to confirm the results. Faecal and dust samples shall be taken in accordance with Regulation (EC) No 584/2008 and bacteriological analyses thereof shall be performed at the NRL for salmonellae at the SVI in Prague.
The confirmatory sampling shall be performed as follows:
5 pairs of boot swabs (1 pair = 1 sample);
2 dust samples collected from multiple places throughout the house (2 x 250 ml)
A sub-sample, weighting 25 g and prepared from each faecal and dust sample, shall be used for the analysis; all samples shall be analysed separately.
In the case of a suspicion on the presence of inhibitory substances, the laboratory shall perform a confirmatory test, in order to exclude the use of antibiotics likely to affect the results of the confirmatory analysis.
Pending the completion of the confirmatory examination, the RVA shall impose at least the following measures:
1.bacteriological analysis of feeds and water, if necessary, for the detection Salmonella spp.;
2.in the case of a positive result of the detection of S. enteritidis and/or S. typhimurium, hatching eggs shall be suspended pending the completion of the confirmatory analyses;
3.a thorough mechanical cleansing and disinfection of the house, as well as other premises (e.g. stores of feeds and litter), shall be performed. A thorough mechanical cleansing of halls and technologies, followed by disinfection and safe disposal of faeces or litter shall be performed on completion of each production cycle.
In the case of a negative result of the confirmatory examination, the RVA shall lift the measures and the flock shall be considered negative.

b)Measures taken in the case of positive official samples and positive confirmatory examinations for S. enteritidis and/or S. typhimurium:
The RVA shall perform an epidemiological investigation in the holding, aimed at the detection of the possible source of the infection and shall impose at least that:
1.further bacteriological examination of feeds for the detection Salmonella spp. is performed, if necessary;
2.all birds, including day-old turkeys, in the positive flock must be slaughtered or destroyed so as to reduce as much as possible the risk of spreading salmonella. Slaughtering must be carried out in accordance with Community legislation on food hygiene. By-products derived from such birds and not intended for human consumption must be disposed of in accordance with Regulation (EC) of the European Parliament and of the Council No 1069/2009 laying down health rules concerning animal by-products not indented for human consumption;
3.non-incubated eggs must be destroyed;
4.where eggs for hatching are still present in a hatchery, they must be destroyed or treated in accordance with Regulation (EC) of the European Parliament and of the Council No 1069/2009;
5.after slaughtering or destruction of birds from infected flocks, a thorough cleansing and disinfection, as well as disposal of faeces or litter, must be performed in accordance with the instructions of the relevant RVA;
6.the relevant RVA performs the supervision on the efficacy of the disinfection carried out by the farmer; the checks on the efficacy of the disinfection shall be performed by means of bacteriological testing of swabs, in accordance with the method specified by the NRL.

Fattening flocks:
-Farmer shall record the result into the “Food Chain Information” at the dispatch of turkeys to a slaughterhouse.
-Farmer shall perform a check on efficacy of preventive measures aimed at bio-safety of the holding.

-Farmer shall take samples of feedingstuffs from bins; the samples shall be sent for laboratory examination for the detection of Salmonella spp.
-A thorough mechanical cleansing, disinfection, disinsectisation and rat extermination shall be performed following dispatch of turkeys to a slaughterhouse; as well as safe disposal of faeces or litter.
-Farmer shall take swab samples for laboratory check on efficacy of disinfection.
-New birds may be introduced only upon confirmation of efficacy of disinfection.

Notification system in place

Notification system is lay down by the Act No. 166/1999 of 13 July 1999 on veterinary care and amending certain related laws (Veterinary Act), as amended.

Table Salmonella in breeding flocks of Gallus gallus

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes			Census	Official and industry sampling			yes				
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - Control and eradication programmes	3	NRL for Salmonella	Census	Industry sampling	environmental sample > delivery box liner		yes	Flock	3	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - Control and eradication programmes	9	NRL for Salmonella	Census	Industry sampling	environmental sample > boot swabs		yes	Flock	9	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - Control and eradication programmes	19	NRL for Salmonella	Census	Official and industry sampling	environmental sample > boot swabs		yes	Flock	19	0	
Gallus gallus (fowl) - elite breeding flocks for egg production line - day-old chicks - Control and eradication programmes	4	NRL for Salmonella	Census	Industry sampling	environmental sample > delivery box liner		yes	Flock	4	0	
Gallus gallus (fowl) - elite breeding flocks for egg production line - during rearing period - Control and eradication programmes	6	NRL for Salmonella	Census	Industry sampling	environmental sample > boot swabs		yes	Flock	6	0	
Gallus gallus (fowl) - elite breeding flocks for egg production line - adult - Control and eradication programmes	6	NRL for Salmonella	Census	Official and industry sampling	environmental sample > boot swabs		yes	Flock	6	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - Control and eradication programmes	84	NRL for Salmonella	Census	Industry sampling	environmental sample > boot swabs		yes	Flock	84	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period - Control and eradication programmes	594	NRL for Salmonella	Census	Industry sampling	environmental sample > boot swabs		yes	Flock	594	5	

Table Salmonella in breeding flocks of Gallus gallus

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - Control and eradication programmes	621	NRL for Salmonella	Census	Official and industry sampling	environmental sample > boot swabs		yes	Flock	621	11	4
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - day-old chicks - Control and eradication programmes	1	NRL for Salmonella	Census	Industry sampling	environmental sample > delivery box liner		yes	Flock	1	0	
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - during rearing period - Control and eradication programmes	4	NRL for Salmonella	Census	Industry sampling	environmental sample > boot swabs		yes	Flock	4	0	
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - adult - Control and eradication programmes	4	NRL for Salmonella	Census	Official and industry sampling	environmental sample > boot swabs		yes	Flock	4	1	

	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Derby	S. Saintpaul	S. Senftenberg
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes									
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - Control and eradication programmes									
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - Control and eradication programmes									

Table Salmonella in breeding flocks of Gallus gallus

	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Derby	S. Saintpaul	S. Senftenberg
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - Control and eradication programmes									
Gallus gallus (fowl) - elite breeding flocks for egg production line - day-old chicks - Control and eradication programmes									
Gallus gallus (fowl) - elite breeding flocks for egg production line - during rearing period - Control and eradication programmes									
Gallus gallus (fowl) - elite breeding flocks for egg production line - adult - Control and eradication programmes									
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - Control and eradication programmes									
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period - Control and eradication programmes		5							
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - Control and eradication programmes							6		1
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - day-old chicks - Control and eradication programmes									
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - during rearing period - Control and eradication programmes									

Table Salmonella in breeding flocks of Gallus gallus

	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Derby	S. Saintpaul	S. Senftenberg
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - adult - Control and eradication programmes								1	

Table Salmonella in other poultry

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - laying hens - day-old chicks - Control and eradication programmes	116	NRL for Salmonella	Census	Industry sampling	environmental sample > delivery box liner		yes	Flock	116	1	
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes	141	NRL for Salmonella	Census	Industry sampling	environmental sample		yes	Flock	141	1	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	444	NRL for Salmonella	Census	Official and industry sampling	environmental sample		yes	Flock	444	14	10
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	5087	NRL for Salmonella	Census	Official and industry sampling	environmental sample > boot swabs		yes	Flock	5087		113
Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes	2	NRL for Salmonella	Census	Industry sampling	environmental sample > delivery box liner		yes	Flock	2	1	
Turkeys - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes	15	NRL for Salmonella	Census	Industry sampling	environmental sample > boot swabs		yes	Flock	15	7	
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes [1)]	12	NRL for Salmonella	Census	Official and industry sampling	environmental sample > boot swabs		yes	Flock	12	6	
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes	292	NRL for Salmonella	Census	Official and industry sampling	environmental sample > boot swabs		yes	Flock	292	42	1

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 6,7:-:1,5	S. Agona	S. Anatum	S. Derby	S. Hadar	S. Indiana	S. Infantis	S. Javiana
Gallus gallus (fowl) - laying hens - day-old chicks - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes							1				
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	2						1				
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	3			27		1	1	3	9	93	1
Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes											
Turkeys - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes											
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes [1)]											
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes						1					

	S. Kentucky	S. Kottbus	S. Lille	S. Mbandaka	S. Newport	S. Ohio	S. Saintpaul	S. Stanley	S. Tennessee	S. Zanzibar
Gallus gallus (fowl) - laying hens - day-old chicks - Control and eradication programmes	1									

Table Salmonella in other poultry

	S. Kentucky	S. Kottbus	S. Lille	S. Mbandaka	S. Newport	S. Ohio	S. Saintpaul	S. Stanley	S. Tennessee	S. Zanzibar
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes										
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	1									
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	2	3	6	1	3	2			14	
Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes	1									
Turkeys - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes	7									
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes [1)]	6									
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes	3				15	1	6	14		1

Comments:

[1)] one of the flocks positive for S. kentucky was positive for S. newport too.

Footnote:

The flock of fattening turkeys positive for S. newport was positive for S. kentucky too.

2.1.5 Salmonella in feedingstuffs

Table Salmonella in compound feedingstuffs

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Compound feedingstuffs for cattle - process control - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	2	0		
Compound feedingstuffs for pigs - process control - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	14	0		
Compound feedingstuffs for poultry (non specified) - process control - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	6	0		
Compound feedingstuffs for poultry - breeders - process control - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	1	0		
Compound feedingstuffs for poultry - laying hens - process control - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	1	0		
Compound feedingstuffs for poultry - broilers - process control - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	11	0		
Compound feedingstuffs for poultry - breeders - at farm - Control and eradication programmes	SVA	Suspect sampling	Official sampling	feed sample		Batch	25g	8	0		
Compound feedingstuffs for poultry - broilers - at farm - Control and eradication programmes	SVA	Suspect sampling	Official and industry sampling	feed sample		Batch	25g	101	0		
Compound feedingstuffs for poultry - laying hens - at farm - Control and eradication programmes	SVA	Suspect sampling	Official sampling	feed sample		Batch	25g	29	1		
Compound feedingstuffs for turkeys - at farm - Control and eradication programmes	SVA	Suspect sampling	Official sampling	environmental sample		Batch	25g	2	0		

Table Salmonella in compound feedingstuffs

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Pet food - final product - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	71	0		

	Salmonella spp., unspecified	S. Derby
Compound feedingstuffs for cattle - process control - at feed mill - Surveillance		
Compound feedingstuffs for pigs - process control - at feed mill - Surveillance		
Compound feedingstuffs for poultry (non specified) - process control - at feed mill - Surveillance		
Compound feedingstuffs for poultry - breeders - process control - at feed mill - Surveillance		
Compound feedingstuffs for poultry - laying hens - process control - at feed mill - Surveillance		
Compound feedingstuffs for poultry - broilers - process control - at feed mill - Surveillance		
Compound feedingstuffs for poultry - breeders - at farm - Control and eradication programmes		
Compound feedingstuffs for poultry - broilers - at farm - Control and eradication programmes		

Table Salmonella in compound feedingstuffs

	Salmonella spp., unspecified	S. Derby
Compound feedingstuffs for poultry - laying hens - at farm - Control and eradication programmes		1
Compound feedingstuffs for turkeys - at farm - Control and eradication programmes		
Pet food - final product - at processing plant - Surveillance		

Table Salmonella in feed material of animal origin

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Feed material of land animal origin - dairy products - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	10	0		
Feed material of land animal origin - meat meal - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	40	0		
Feed material of land animal origin - meat and bone meal - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	1	0		
Feed material of land animal origin - feather meal - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	2	0		
Feed material of land animal origin - blood meal - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	9	0		
Feed material of land animal origin - animal fat - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	1	0		

	Salmonella spp., unspecified
Feed material of land animal origin - dairy products - at feed mill - Surveillance	
Feed material of land animal origin - meat meal - at feed mill - Surveillance	
Feed material of land animal origin - meat and bone meal - at feed mill - Surveillance	
Feed material of land animal origin - feather meal - at feed mill - Surveillance	

Table Salmonella in feed material of animal origin

	Salmonella spp., unspecified
Feed material of land animal origin - blood meal - at feed mill - Surveillance	
Feed material of land animal origin - animal fat - at feed mill - Surveillance	

Table Salmonella in other feed matter

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Other feed material - forages and roughages - at feed mill - Surveillance	SVA	Objective sampling	Official sampling	feed sample		Batch	25g	2	0		

	Salmonella spp., unspecified
Other feed material - forages and roughages - at feed mill - Surveillance	

2.1.6 Salmonella serovars and phagetype distribution

The methods of collecting, isolating and testing of the Salmonella isolates are described in the chapters above respectively for each animal species, foodstuffs and humans. The serotype and phagetype distributions can be used to investigate the sources of the Salmonella infections in humans. Findings of same serovars and phagetypes in human cases and in foodstuffs or animals may indicate that the food category or animal species in question serves as a source of human infections. However as information is not available from all potential sources of infections, conclusions have to be drawn with caution.

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
Sources of isolates	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Number of isolates in the laboratory													
Number of isolates serotyped	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of isolates per serovar													
S. 6,7:-:1,5													
S. Agona													
S. Anatum													
S. Derby													
S. Enteritidis													
S. Hadar													

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
Sources of isolates	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Number of isolates in the laboratory													
Number of isolates serotyped	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of isolates per serovar													
S. Indiana													
S. Infantis													
S. Javiana													
S. Kentucky													
S. Kottbus													
S. Lille													
S. Mbandaka													
S. Newport													
S. Ohio													
S. Saintpaul													
S. Senftenberg													

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
Sources of isolates	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Number of isolates in the laboratory													
Number of isolates serotyped	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of isolates per serovar													
S. Stanley													
S. Tennessee													
S. Typhimurium													
S. Zanzibar													

Serovar	Other poultry			Gallus gallus (fowl) - breeding flocks for broiler production line - adult - at farm - Control and eradication programmes				Gallus gallus (fowl) - breeding flocks for broiler production line - during rearing period - at farm - Control and eradication programmes				Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	
Sources of isolates	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring
Number of isolates in the laboratory				12				4				282	
Number of isolates serotyped	0	0	0	12	0	0	0	5	0	0	0	282	0
Number of isolates per serovar													
S. 6,7:-:1,5												27	

Table Salmonella serovars in animals

Serovar	Other poultry			Gallus gallus (fowl) - breeding flocks for broiler production line - adult - at farm - Control and eradication programmes				Gallus gallus (fowl) - breeding flocks for broiler production line - during rearing period - at farm - Control and eradication programmes				Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	
Sources of isolates	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring
Number of isolates in the laboratory				12				4				282	
Number of isolates serotyped	0	0	0	12	0	0	0	5	0	0	0	282	0
Number of isolates per serovar													
S. Agona													
S. Anatum												1	
S. Derby				6								1	
S. Enteritidis				4								113	
S. Hadar												3	
S. Indiana												9	
S. Infantis								5				93	
S. Javiana												1	
S. Kentucky												2	
S. Kottbus												3	

Table Salmonella serovars in animals

Serovar	Other poultry			Gallus gallus (fowl) - breeding flocks for broiler production line - adult - at farm - Control and eradication programmes				Gallus gallus (fowl) - breeding flocks for broiler production line - during rearing period - at farm - Control and eradication programmes				Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	
Sources of isolates	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring
Number of isolates in the laboratory				12				4				282	
Number of isolates serotyped	0	0	0	12	0	0	0	5	0	0	0	282	0
Number of isolates per serovar													
S. Lille												6	
S. Mbandaka												1	
S. Newport												3	
S. Ohio												2	
S. Saintpaul				1									
S. Senftenberg				1									
S. Stanley													
S. Tennessee												14	
S. Typhimurium												3	
S. Zanzibar													

Table Salmonella serovars in animals

Serovar	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes		Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes				Gallus gallus (fowl) - laying hens - day-old chicks - at farm - Control and eradication programmes				Gallus gallus (fowl) - laying hens - during rearing period - flocks under control programme - at farm - Control and eradication programmes		
Sources of isolates	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical
Number of isolates in the laboratory			14				1				1		
Number of isolates serotyped	0	0	14	0	0	0	1	0	0	0	1	0	0
Number of isolates per serovar													
S. 6,7:-:1,5													
S. Agona													
S. Anatum													
S. Derby			1								1		
S. Enteritidis			10										
S. Hadar													
S. Indiana													
S. Infantis													
S. Javiana													
S. Kentucky			1				1						

Table Salmonella serovars in animals

Serovar	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes		Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes				Gallus gallus (fowl) - laying hens - day-old chicks - at farm - Control and eradication programmes				Gallus gallus (fowl) - laying hens - during rearing period - flocks under control programme - at farm - Control and eradication programmes		
Sources of isolates	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical
Number of isolates in the laboratory			14				1				1		
Number of isolates serotyped	0	0	14	0	0	0	1	0	0	0	1	0	0
Number of isolates per serovar													
S. Kottbus													
S. Lille													
S. Mbandaka													
S. Newport													
S. Ohio													
S. Saintpaul													
S. Senftenberg													
S. Stanley													
S. Tennessee													
S. Typhimurium			2										

Table Salmonella serovars in animals

Serovar	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes		Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes				Gallus gallus (fowl) - laying hens - day-old chicks - at farm - Control and eradication programmes				Gallus gallus (fowl) - laying hens - during rearing period - flocks under control programme - at farm - Control and eradication programmes		
Sources of isolates	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical
Number of isolates in the laboratory			14				1				1		
Number of isolates serotyped	0	0	14	0	0	0	1	0	0	0	1	0	0
Number of isolates per serovar													
S. Zanzibar													

Table Salmonella serovars in animals

Serovar	Gallus gallus (fowl) - laying hens - during rearing period - flocks under control programme - at farm - Control and eradication programmes	Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes				Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes				Turkeys - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes			
Sources of isolates	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory		7				1				7			
Number of isolates serotyped	0	7	0	0	0	1	0	0	0	7	0	0	0
Number of isolates per serovar													
S. 6,7:-:1,5													
S. Agona													
S. Anatum													
S. Derby													
S. Enteritidis													
S. Hadar													

Table Salmonella serovars in animals

Serovar	Gallus gallus (fowl) - laying hens - during rearing period - flocks under control programme - at farm - Control and eradication programmes	Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes				Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes				Turkeys - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes			
Sources of isolates	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory		7				1				7			
Number of isolates serotyped	0	7	0	0	0	1	0	0	0	7	0	0	0
Number of isolates per serovar													
S. Indiana													
S. Infantis													
S. Javiana													
S. Kentucky		6				1				7			
S. Kottbus													
S. Lille													

Table Salmonella serovars in animals

Serovar	Gallus gallus (fowl) - laying hens - during rearing period - flocks under control programme - at farm - Control and eradication programmes	Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes				Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes				Turkeys - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes			
Sources of isolates	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory		7				1				7			
Number of isolates serotyped	0	7	0	0	0	1	0	0	0	7	0	0	0
Number of isolates per serovar													
S. Mbandaka													
S. Newport		1											
S. Ohio													
S. Saintpaul													
S. Senftenberg													
S. Stanley													

Table Salmonella serovars in animals

Serovar	Gallus gallus (fowl) - laying hens - during rearing period - flocks under control programme - at farm - Control and eradication programmes	Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes				Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes				Turkeys - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes			
Sources of isolates	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory		7				1				7			
Number of isolates serotyped	0	7	0	0	0	1	0	0	0	7	0	0	0
Number of isolates per serovar													
S. Tennessee													
S. Typhimurium													
S. Zanzibar													

Table Salmonella serovars in animals

Serovar	Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes			
Sources of isolates	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory	42			
Number of isolates serotyped	42	0	0	0
Number of isolates per serovar				
S. 6,7:-:1,5				
S. Agona	1			
S. Anatum				
S. Derby				
S. Enteritidis	1			
S. Hadar				
S. Indiana				
S. Infantis				
S. Javiana				
S. Kentucky	3			
S. Kottbus				

Table Salmonella serovars in animals

Serovar	Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes			
Sources of isolates	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory	42			
Number of isolates serotyped	42	0	0	0
Number of isolates per serovar				
S. Lille				
S. Mbandaka				
S. Newport	15			
S. Ohio	1			
S. Saintpaul	6			
S. Senftenberg				
S. Stanley	14			
S. Tennessee				
S. Typhimurium				
S. Zanzibar	1			

Footnote:

Table Salmonella serovars in animals

One of the flocks of breeding turkeys positive for S. kentucky was positive for S. newport too.

Table Salmonella serovars in feed

Serovar	Compound feedingstuffs for pigs		Compound feedingstuffs for poultry - laying hens - at farm - Control and eradication programmes	
Sources of isolates	Monitoring	Clinical	Monitoring	Clinical
Number of isolates in the laboratory			1	
Number of isolates serotyped	0	0	1	0
Number of isolates per serovar				
S. Derby			1	

Table Salmonella serovars in food

Serovar	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Meat from other poultry species		Other products of animal origin		Meat from turkey		Meat, mixed meat
Sources of isolates	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring
Number of isolates in the laboratory	20		23	6	69	33					10	2	
Number of isolates serotyped	20	0	23	6	69	33	0	0	0	0	10	2	0
Number of isolates per serovar													
S. 1,4,[5],12:i:-	3			1									
S. 6,7:-:-	1												
S. 6,7:-:1,5					3								
S. 6,8,20:r:-											1		
S. Agona	3				13	5							
S. Derby	6		18	2									
S. Enteritidis	1			1	3	4							
S. Indiana					3	2							
S. Infantis	1				29	11							
S. Kapemba													

Table Salmonella serovars in food

Serovar	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Meat from other poultry species		Other products of animal origin		Meat from turkey		Meat, mixed meat
Sources of isolates	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring
Number of isolates in the laboratory	20		23	6	69	33					10	2	
Number of isolates serotyped	20	0	23	6	69	33	0	0	0	0	10	2	0
Number of isolates per serovar													
S. Kentucky						1					1	1	
S. Mbandaka						5							
S. Montevideo					6	1							
S. Newport	4					1					6		
S. Ohio					11								
S. Saintpaul											2	1	
S. Tennessee					1	1							
S. Typhimurium	1		5	2									
S. Virchow						1							
Salmonella spp.						1							

Table Salmonella serovars in food

Serovar	Meat, mixed meat
Sources of isolates	Surveillance
Number of isolates in the laboratory	6
Number of isolates serotyped	6
Number of isolates per serovar	
S. 1,4,[5],12:i:-	1
S. 6,7:-:-	
S. 6,7:-:1,5	
S. 6,8,20:r:-	
S. Agona	
S. Derby	1
S. Enteritidis	1
S. Indiana	
S. Infantis	
S. Kapemba	1
S. Kentucky	

Table Salmonella serovars in food

Serovar	Meat, mixed meat
Sources of isolates	Surveillance
Number of isolates in the laboratory	6
Number of isolates serotyped	6
Number of isolates per serovar	
S. Mbandaka	
S. Montevideo	
S. Newport	
S. Ohio	
S. Saintpaul	
S. Tennessee	
S. Typhimurium	1
S. Virchow	
Salmonella spp.	1

Table Salmonella Enteritidis phagetypes in animals

Phagetype	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
Sources of isolates	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Number of isolates in the laboratory													
Number of isolates phagetyped	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of isolates per phagetype													
1													
4b													
6a													
6c													
7													
8													
PT 13a													
PT 14b													
PT 1b													
PT 21c													
PT 23													

Table Salmonella Enteritidis phagetypes in animals

Phagetype	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
Sources of isolates	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Number of isolates in the laboratory													
Number of isolates phagetyped	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of isolates per phagetype													
PT 56													
PT 5a													
PT 8a													
PT U													

Phagetype	Other poultry			Gallus gallus (fowl) - breeding flocks for broiler production line - adult - at farm - Control and eradication programmes				Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes				Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Sources of isolates	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring
Number of isolates in the laboratory				4				113				10	
Number of isolates phagetyped	0	0	0	4	0	0	0	113	0	0	0	10	0
Number of isolates per phagetype													
1								1					
4b								1					

Table Salmonella Enteritidis phagetypes in animals

Phagetype	Other poultry			Gallus gallus (fowl) - breeding flocks for broiler production line - adult - at farm - Control and eradication programmes				Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes				Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Sources of isolates	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring
Number of isolates in the laboratory				4				113				10	
Number of isolates phagetyped	0	0	0	4	0	0	0	113	0	0	0	10	0
Number of isolates per phagetype													
6a								1					
6c				1				22					
7								5					
8				3				62				3	
PT 13a								1					
PT 14b												2	
PT 1b												1	
PT 21c								16					
PT 23								2				1	
PT 56												1	

Table Salmonella Enteritidis phagetypes in animals

Phagetype	Other poultry			Gallus gallus (fowl) - breeding flocks for broiler production line - adult - at farm - Control and eradication programmes				Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes				Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Sources of isolates	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring
Number of isolates in the laboratory				4				113				10	
Number of isolates phagetyped	0	0	0	4	0	0	0	113	0	0	0	10	0
Number of isolates per phagetype													
PT 5a												2	
PT 8a								1					
PT U								1					

Phagetype	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes			
Sources of isolates	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory			1			
Number of isolates phagetyped	0	0	1	0	0	0
Number of isolates per phagetype						
1						
4b						

Table Salmonella Enteritidis phagetypes in animals

Phagetype	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes			
Sources of isolates	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory			1			
Number of isolates phagetyped	0	0	1	0	0	0
Number of isolates per phagetype						
6a						
6c						
7						
8						
PT 13a						
PT 14b			1			
PT 1b						
PT 21c						
PT 23						
PT 56						

Table Salmonella Enteritidis phagetypes in animals

Phagetype	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes			
Sources of isolates	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory			1			
Number of isolates phagetyped	0	0	1	0	0	0
Number of isolates per phagetype						
PT 5a						
PT 8a						
PT U						

Table Salmonella Enteritidis phagetypes in food

Phagetype	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Meat from other poultry species		Other products of animal origin		Meat, mixed meat - minced meat - intended to be eaten cooked - at processing plant - Surveillance	
Sources of isolates	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Number of isolates in the laboratory	1			1	3	4						
Number of isolates phagetyped	1	0	0	1	3	4	0	0	0	0	0	1
Number of isolates per phagetype												
PT 20					3	1						
PT 3						1						
PT 4b						1						
PT 6c				1		1						
PT 8	1											1

Table Salmonella Enteritidis phagetypes in humans

Phagetype	Humans	
Sources of isolates	Monitoring	Clinical
Number of isolates in the laboratory		
Number of isolates phagetyped	0	221
Number of isolates per phagetype		
PT 14b		46
PT 1b		5
PT 2		1
PT 21		1
PT 21c		17
PT 3		1
PT 4		3
PT 4b		9
PT 56		16
PT 6c		3
PT 8		116

Table Salmonella Enteritidis phagetypes in humans

Phagetype	Humans	
Sources of isolates	Monitoring	Clinical
Number of isolates in the laboratory		
Number of isolates phagetyped	0	221
Number of isolates per phagetype		
RDNC		2
U		1

Table Salmonella Typhimurium phagetypes in animals

Phagetype / Sources of isolates	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Number of isolates in the laboratory													
Number of isolates phagetyped	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of isolates per phagetype													
DT 104													
DT 2													
DT 85													

Phagetype / Sources of isolates	Other poultry			Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes				Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory				3				2			
Number of isolates phagetyped	0	0	0	3	0	0	0	2	0	0	0
Number of isolates per phagetype											
DT 104				2				1			
DT 2				1							
DT 85								1			

Table Salmonella Typhimurium phagetypes in animals

Table Salmonella Typhimurium phagetypes in food

Phagetype / Sources of isolates	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Meat from other poultry species		Other products of animal origin		Meat, mixed meat	
	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Number of isolates in the laboratory	1		5	2								1
Number of isolates phagetyped	1	0	5	2	0	0	0	0	0	0	0	1
Number of isolates per phagetype												
DT 104			4	1								
DT 120												1
DT 193			1	1								
RDNC	1											

Table Salmonella Typhimurium phagetypes in humans

Phagetype	Humans	
Sources of isolates	Monitoring	Clinical
Number of isolates in the laboratory		
Number of isolates phagetyped	0	56
Number of isolates per phagetype		
DT 1		2
DT 10		1
DT 104		22
DT 116		1
DT 120		4
DT 141		2
DT 193		6
DT 208		1
DT 59		2
DT 7		1
DT 8		5

Table Salmonella Typhimurium phagetypes in humans

Phagetype	Humans	
Sources of isolates	Monitoring	Clinical
Number of isolates in the laboratory		
Number of isolates phagetyped	0	56
Number of isolates per phagetype		
RDNC		5
U		2
U 302		1
U 311		1

Table S. 1,4,[5],12:i:- phagetypes in Food

Phagetype	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Meat from other poultry species		Other products of animal origin		Meat, mixed meat	
Sources of isolates	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Number of isolates in the laboratory	3			1								1
Number of isolates phagetyped	3	0	0	1	0	0	0	0	0	0	0	1
Number of isolates per phagetype												
DT 193	3			1								1

2.1.7 Antimicrobial resistance in Salmonella isolates

A. Antimicrobial resistance in Salmonella in cattle

Sampling strategy used in monitoring

Frequency of the sampling

B. Antimicrobial resistance in Salmonella in foodstuff derived from pigs

Sampling strategy used in monitoring

Frequency of the sampling

C. Antimicrobial resistance in Salmonella in foodstuff derived from poultry

Sampling strategy used in monitoring

Frequency of the sampling

There is the specific monitoring program for antimicrobial resistence applied together with monitoring zoonoses in the Czech Republic. This monitoring take place together with monitorig zoonoses in accordance with Directive 2003/99/EC.The samlptes were taken one times a month in slaughterhouses.

Type of specimen taken

Neck skin samples are taken randomly from 15 carcasses of broilers after chilling. Minimal weight each of samples is 10g.

Methods of sampling (description of sampling techniques)

The sampling is stratified by location slaughterhouses. The sampling is the component of zoonoses monitoring.

Procedures for the selection of isolates for antimicrobial testing

The investigation carry out in all isolated serotype.

Methods used for collecting data

The isolates are collected from laboratories to be tested centrally at the NRL.

Laboratory methodology used for identification of the microbial isolates

As the standardized method is certified of CLSI, i.e. Broth dilution metod on standardised EUMVS format

Laboratory used for detection for resistance

Antimicrobials included in monitoring

tetracycline
chloramphenicol
ciprofloxacin
nalidixic acid
trimethoprim
sulfonamide
streptomycin
gentamicin
cefotaxim
ceftazidime
ampicillin

Cut-off values used in testing

epidemiological cut-off values recomanded by EUCAST in case of assignation,CLSI, ARBAO

Control program/mechanisms

The control program/strategies in place

The competent authority takes measures according to the legislation in force and defined cases are reported into the Rapid Allert System for Food and Feed.

Recent actions taken to control the zoonoses

SVA, NIPH and CAFIA carry out monitoring and control programmes in the whole food chain and take appropriate measures according to the legislation in force to ensure safe foodstuffs.

D. Antimicrobial resistance in Salmonella in poultry

Sampling strategy used in monitoring

Frequency of the sampling

Sampling is performed in the framework of Salmonella control programme (SCP) and in case of positve result for Salmonella spp., the strain is tested for ATB resistance.

Type of specimen taken

feaces, boot swabs, dust according to SCP.

Procedures for the selection of isolates for antimicrobial testing

Only one isolate of each serotype per holding and year is examinated.

Methods used for collecting data

The isolates are collected from laboratories to be tested centrally at the NRL.

Laboratory methodology used for identification of the microbial isolates

As the standardized method is certified of CLSI, i.e. Broth dilution metod on standardised EUMVS format

Laboratory used for detection for resistance

Antimicrobials included in monitoring

tetracycline

chloramphenicol

ciprofloxacin

nalidixic acid

trimethoprim

sulfonamide

streptomycin

gentamicin

cefotaxim

ceftazidime

ampicillin

Cut-off values used in testing

epidemiological cut-off values recomanded by EUCAST in case of assignation,CLSI, ARBAO

Table Antimicrobial susceptibility testing of Salmonella in humans

Salmonella	S. Enteritidis		S. Typhimurium		Salmonella spp.	
Isolates out of a monitoring program (yes/no)			yes			
Number of isolates available in the laboratory			67			
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin			67	2		
Aminoglycosides - Kanamycin			67	9		
Aminoglycosides - Neomycin			67	8		
Aminoglycosides - Streptomycin			67	48		
Amphenicols - Chloramphenicol			67	23		
Cephalosporins - 3rd generation cephalosporins			67	4		
Fluoroquinolones - Ciprofloxacin			67	1		
Fluoroquinolones - Enrofloxacin			67	2		
Penicillins - Ampicillin			67	35		
Quinolones - Nalidixic acid			67	7		
Tetracyclines - Tetracycline			67	29		
Trimethoprim			67	8		
Trimethoprim + Sulfonamides			67	7		
Fully sensitive			67	15		
Resistant to 1 antimicrobial			67	15		
Resistant to 2 antimicrobials			67	5		
Resistant to 3 antimicrobials			67	4		
Resistant to 4 antimicrobials			67	10		
Resistant to >4 antimicrobials			67	18		

Table Antimicrobial susceptibility testing of Salmonella in humans

Table Cut-off values for antibiotic resistance testing of Salmonella in Animals

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
Fluoroquinolones	Ciprofloxacin		0.06	
Penicillins	Ampicillin		4	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

Table Cut-off values for antibiotic resistance testing of Salmonella in Feed

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
Fluoroquinolones	Ciprofloxacin		0.06	
Penicillins	Ampicillin		4	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

Table Cut-off values for antibiotic resistance testing of Salmonella in Food

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
Fluoroquinolones	Ciprofloxacin		0.06	
Penicillins	Ampicillin		4	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

2.2 CAMPYLOBACTERIOSIS

2.2.1 General evaluation of the national situation

A. Thermophilic Campylobacter general evaluation

History of the disease and/or infection in the country

State Veterinary Administration (SVA) of the Czech Republic launched monitoring of occurrence of thermophilic Campylobacter in poultry in the year 2005. This monitoring was also carried out from 2006 to 2011. The main purpose is the monitoring of thermophilic Campylobacter incidence and their antibiotic resistance. The caecum samples of broilers were taken at the slaughterhouses in 2011. The slaughterhouses were selected so that the entire area of the Czech Republic was covered, if possible. To deal with seasonal prevalence, samples were collected in slaughterhouses monthly throughout the entire calendar year. The partner of the EU-RL in Uppsala is the State Veterinary Institute Olomouc.

National evaluation of the recent situation, the trends and sources of infection

The prevalence of human campylobacteriosis was relatively similar to the last year.

Recent actions taken to control the zoonoses

The monitoring of the prevalence and antibiotics resistance of thermotolerant Campylobacter spp. in broilers.

2.2.2 Campylobacteriosis in humans

A. Thermophilic Campylobacter in humans

Reporting system in place for the human cases

Infectious diseases (all infections including parasitary) are notified on legal basis (20/1966, 258/2000.) Any physician is obliged to notify the diagnosed disease and data are collected by the net of Regional Public Health Institutes with their district branch offices. The data are centrally collected and processed by the National Institute of Public health.

Case definition

Clinical picture compatible with campylobacteriosis, e.g. diarrhoeal illness of variable severity.

Notification system in place

Infectious diseases (all infections including parasitary) are notified on legal basis. (20/1966, 258/2000) Any physician is obliged to notify the diagnosed disease and data are collected by the net of Regional Public Health Institutes with their district branch offices. The data are centrally collected and processed by the National Institute of Public health.

History of the disease and/or infection in the country

Campylobacter is routinely diagnosed only in recent years and we observe typical seasonal variation in its incidence. The increasing trend in incidence was partly due to spread of diagnostic in all country. Campylobacterioses have importance comparable with salmonelosis.

National evaluation of the recent situation, the trends and sources of infection

The highest increase in morbidity is recorded for the lowest age groups that is indicative of worsening conditions in food processing (particularly in households). Almost three fourts of cases were infected via poultry products.

2.2.3 Campylobacter in foodstuffs

A. Thermophilic Campylobacter in Broiler meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

Table Campylobacter in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni
Meat from pig - fresh - at retail	NIPH	Census	Official sampling	food sample		Single	25g	12	0		
Meat from bovine animals - fresh - at retail	NIPH	Census	Official sampling	food sample		Single	25g	24	0		
Fish - raw - at retail - Monitoring	NIPH	Census	Official sampling	food sample		Single	25g	24	0		

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from pig - fresh - at retail			
Meat from bovine animals - fresh - at retail			
Fish - raw - at retail - Monitoring			

2.2.4 Campylobacter in animals

A. Thermophilic Campylobacter in Gallus gallus

Monitoring system

Sampling strategy

The State Veterinary Administration (SVA) in the Czech Republic has introduced monitoring of thermophilic Campylobacter in poultry since September 2005. Monitoring was also carried out from 2006 to 2011. Samples are taken at slaughterhouses from poultry at random. Sampling is done by official veterinary inspector every month. From 2008 ten caecum samples are taken at slaughterhouses. The samples are put into plastic bags. One slaughter batch equals 10 caecums. After collecting the samples, they are kept chilled and they are sent to the accredited laboratories of the State Veterinary Institutes within 24 hours. The monitoring system is in accordance to the Methodology Instruction of SVA.

Frequency of the sampling

At slaughter

Once a month

Type of specimen taken

At slaughter

Caecum

Methods of sampling (description of sampling techniques)

At slaughter

Samples of caecum are taken at slaughterhouses at random. Samples are cooled and delivered to the lab within 24 hours. Sampling is done by official veterinary inspector every month throughout the entire calendar year.
Monitoring system follows the Methodology Instruction of SVA. The slaughterhouses were selected so that the entire area of the Czech Republic was covered, if possible.

Case definition

At slaughter

Positive result of the bacteriological test.

Diagnostic/analytical methods used

At slaughter

CSN EN ISO 10272-1:2006,

Notification system in place

The official laboratory (State Veterinary Institute) notifies the positive sample to RVA.

Results of the investigation

Investigation is performed in the state laboratories accredited in accordance with CSN ISO EN 17025:2005. Results of investigation are sent in the form of lab test report to the SVA.

Table Campylobacter in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari
Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring	SVA	Objective sampling	Official sampling	animal sample > caecum		Flock	145	92	30	62	

	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring		

2.2.5 Antimicrobial resistance in Campylobacter isolates

A. Antimicrobial resistance in Campylobacter jejuni and coli in poultry

Sampling strategy used in monitoring

Frequency of the sampling

Caecum of broilers was taken once a month. Resistance to selected antibiotics was tested for the isolates of Campylobacter spp.

Type of specimen taken

The isolates of Campylobacter jejuni and Campylobacter coli.

Methods used for collecting data

Strain isolates of thermophilic Campylobacter are collected and sent to the only state laboratory, where they are centrally investigated for antimicrobial resistance. The monitoring of antibiotics resistance was carried out only by the State Veterinary Institute Olomouc (NRL for Campylobacter).

Laboratory methodology used for identification of the microbial isolates

Bacteriological examination was in accordance with the ISO 10272-1:2006. To confirm suspected isolates, the PCR methods described by Ertas and Lund (Ertas et al., 2002, Lund et al., 2004) and commercial real-time PCR kit (Taq Man Campylobacter spp. Kit, Applied Biosystems) were used. The identification of Campylobacter by MALDI-TOF method started in autumn 2010. For quality control, the C. jejuni ATCC 33560 reference strain was used.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Erythromycin, ciprofloxacin, tetracycline, streptomycin, gentamicin, chloramphenicol, ampicillin, nalidixic acid.

Cut-off values used in testing

See the appropriate table.

Notification system in place

The results of the antibiotic resistance of the isolates were notified to the SVA.

Results of the investigation

The highest detected resistance was to quinolone antibiotics.

Table Antimicrobial susceptibility testing of Campylobacter in Gallus gallus (fowl)

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
Isolates out of a monitoring program (yes/no)	yes		yes			
Number of isolates available in the laboratory	24		57			
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin	24	1	57	0		
Fluoroquinolones - Ciprofloxacin	24	21	57	31		
Macrolides - Erythromycin	24	1	57	0		
Penicillins - Ampicillin	24	9	57	16		
Quinolones - Nalidixic acid	24	20	57	31		
Tetracyclines - Tetracycline	24	6	57	8		
Fully sensitive	24	2	57	21		
Resistant to 1 antimicrobial	24	1	57	5		
Resistant to 2 antimicrobials	24	10	57	18		
Resistant to 3 antimicrobials	24	6	57	7		
Resistant to 4 antimicrobials	24	3	57	6		
Resistant to >4 antimicrobials	24	2	57	0		
Aminoglycosides - Streptomycin	24	3	57	0		
Amphenicols - Chloramphenicol	24	0	57	0		

Table Antimicrobial susceptibility testing of C. coli in Gallus gallus (fowl) - broilers - unspecified - at slaughterhouse - Census - Official sampling - animal sample - caecum - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

C. coli	Gallus gallus (fowl) - broilers - unspecified - at slaughterhouse																							
Isolates out of a monitoring program (yes/no)	yes																							
Number of isolates available in the laboratory																								
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	24	1			1	3	1	2	10	6		1											
Aminoglycosides - Streptomycin	4	24	3				1	4	6	6	2	2		1	1				1					
Amphenicols - Chloramphenicol	16	24	0						1	2	10	10		1										
Fluoroquinolones - Ciprofloxacin	1	24	21					1		2				6	9	4	1	1						
Penicillins - Ampicillin	4	24	9								3	5	7	5	1	1	1	1						
Quinolones - Nalidixic acid	32	24	20											3		1	20							
Tetracyclines - Tetracycline	2	24	6			2		1	3	9	3		1		1	1	1	2						
Macrolides - Erythromycin	16	24	1					15	7	1						1								

Table Antimicrobial susceptibility testing of C. jejuni in Gallus gallus (fowl) - broilers - unspecified - at slaughterhouse - Monitoring - Census - Official sampling - animal sample - caecum - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

C. jejuni	Gallus gallus (fowl) - broilers - unspecified - at slaughterhouse - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	1	57	0			1	16	30	2	6	2														
Aminoglycosides - Streptomycin	2	57	0				9	16	28	2	1	1													
Amphenicols - Chloramphenicol	16	57	0				1	2	3	8	23	19	1												
Fluoroquinolones - Ciprofloxacin	1	57	31				5	5	14	2		1	3	3	6	14	4								
Penicillins - Ampicillin	4	57	16				1	1	1	9	11	6	12	3	2	5	1	1	4						
Quinolones - Nalidixic acid	16	57	31							4	1	12	4	1	4	6	23	2							
Tetracyclines - Tetracycline	2	57	8			3		2	13	18	9	4	1	2			4	1							
Macrolides - Erythromycin	4	57	0				33	20	3		1														

Table Cut-off values used for antimicrobial susceptibility testing of C. coli in Animals

Test Method Used
Broth dilution

Standard methods used for testing
NCCLS/CLSI EU-RL

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	
	Streptomycin	EFSA	4	
Fluoroquinolones	Ciprofloxacin	EFSA	1	
Macrolides	Erythromycin	EFSA	16	
Penicillins	Ampicillin		4	
Quinolones	Nalidixic acid		32	
Tetracyclines	Tetracycline	EFSA	2	
Amphenicols	Chloramphenicol		16	

Table Cut-off values used for antimicrobial susceptibility testing of C. coli in Feed

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		16	
Tetracyclines	Tetracycline		2	

Table Cut-off values used for antimicrobial susceptibility testing of C. coli in Food

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		16	
Tetracyclines	Tetracycline		2	

Table Cut-off values used for antimicrobial susceptibility testing of C. jejuni in Animals

Test Method Used
Broth dilution

Standard methods used for testing
NCCLS/CLSI EU-RL

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	1	
	Streptomycin	EFSA	2	
Fluoroquinolones	Ciprofloxacin	EFSA	1	
Macrolides	Erythromycin	EFSA	4	
Penicillins	Ampicillin		4	
Quinolones	Nalidixic acid		16	
Tetracyclines	Tetracycline	EFSA	2	
Amphenicols	Chloramphenicol		16	

Table Cut-off values used for antimicrobial susceptibility testing of C. jejuni in Feed

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		4	
Tetracyclines	Tetracycline		2	

Table Cut-off values used for antimicrobial susceptibility testing of C. jejuni in Food

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	1	
	Streptomycin	EFSA	2	
Fluoroquinolones	Ciprofloxacin	EFSA	1	
Macrolides	Erythromycin	EFSA	4	
Tetracyclines	Tetracycline	EFSA	2	

2.3 LISTERIOSIS

2.3.1 General evaluation of the national situation

A. Listeriosis general evaluation

History of the disease and/or infection in the country

There is no official National program for monitoring of listeriosis at animals. Czech Agriculture and Food Inspection Authority (CAFIA) performed control at retail. State Veterinary Administration (SVA) carry out monitoring of listeriosis in foodstuffs of animal origin in food producing establishments in accordance with Commission Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs.

National evaluation of the recent situation, the trends and sources of infection

Listeria monocytogenes in foodstuffs of animal origin were the main source of infection. The prevalence of human listeriosis was relatively similar to the last year.

Relevance of the findings in animals, feedingstuffs and foodstuffs to human cases (as a source of infection)

There are relevance of the findings in foodstuffs as a source of infection to human cases. Sources of infection are just foodstuffs of animal origin. Findings in human populations were sporadic in the last year.

Additional information

In accordance with Regulation (EC) 2073/2005 in 2006 was putting into practice the bacteriological detection of Listeria monocytogenes performed by State Veterinary Administration. The investigation was made by the detection method, this method is more sensible than the enumeration method. For presence or absence L. monocytogenes in 25 g is using EN/ISO 11290-1.

2.3.2 Listeria in foodstuffs

A. L. monocytogenes in food - Other food - at retail - official food or feed controls - random sampling

Monitoring system

Sampling strategy

CAFIA performed control at retail according to Commission Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs (as amended by EU regulation No. 1441/2007, Regulation No. 365/2010 and Regulation No. 1086/2011).
Samples were collected by competent authority as part of an official sampling from all 14 regions of the Czech Republic within a year by the inspectors from the Regional inspectorates and analysed in designated laboratories for analysis samples taken during official controls (Article 12, Regulation (EC) No 882/2004). The sampling by CAFIA was random. However, in case of consumer complaints the sampling was targeted.

Frequency of the sampling

At the production plant

depend on the HACCP and on the survey

At retail

Sampling distributed evenly throughout the year

Type of specimen taken

At the production plant

Raw materials and final products.

At retail

Final products.

Methods of sampling (description of sampling techniques)

At the production plant

Final products must be placed aseptically into a sample container and transfer to the laboratory. The number of subsamples have been taken in accordance with Regulation (EC) No 2073/2005.

At retail

Final product of one hundred grams minimum each was taken in a sterile way, into clean and dry plastic bag. The samples were placed into refrigerated container and immediately sent to the laboratory for investigation. The numbers of subsamples were taken in particular food categories according to a sampling plan which is given to the Chapter 1 Food safety criteria of Commission Regulation (EC) No 2073/2005:
Sampling plan n=5 for ready-to-eat foods able or unable to support the growth of L. monocytogenes, other than those intended for infants and for special medical purposes was taken;
Sampling plan n=10 for ready-to-eat foods intended for infants was taken.

Definition of positive finding

At the production plant

The positive batch means the presence L. monocytogenes in 25 g only in one of all subsamples.

At retail

A batch was considered to be positive where L. monocytogenes has been isolated in amount more than 100 CFU in 1g from at least one subsample taken out of the batch.

Diagnostic/analytical methods used

At the production plant

EN ISO 11290 parts 1 and 2

At retail

EN ISO 11290 parts 1 and 2

Preventive measures in place

Controls of HACCP,GMP and GHP systems

Control program/mechanisms

The control program/strategies in place

The control programs/ strategies in place: check of records and documents within the HACCP system

Measures in case of the positive findings

On the basis of positive finding, the whole batch is recalled from circulation. A fine is imposed on the food business operator and he/she is ordered to remove the causes and to take such measures that would prevent recurrence of pathogens.

Results of the investigation

See table Listeria in other foods.

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Milk, cows' - raw milk - intended for direct human consumption - at farm - Surveillance	SVA	Objective sampling	Official sampling	food sample > milk		Batch	25ml	122	10	122	10
Milk, cows' - pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample > milk		Batch	25ml	262	0	255	0
Milk, goats' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample > milk		Batch	25ml	2	0	2	0
Milk, goats' - raw milk - intended for direct human consumption - at farm - Surveillance	SVA	Objective sampling	Official sampling	food sample > milk		Batch	25ml	2	0	2	0
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	2	0		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	3293	46	2550	37
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	117	0	35	0
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	41	0	21	0
Cheeses made from cows' milk - hard - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	248	0	238	0
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	5	0	5	0

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	55	0	55	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	35	0	35	0
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	19	0	19	0
Cheeses made from sheep's milk - hard - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	1	0	1	0
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	118	0	118	0
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	46	0	46	0
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25ml	2	0		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	NIPH	Objective sampling	Official sampling	food sample		Single	25g	24	0	24	0
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	1894	20	1669	20

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Dairy products (excluding cheeses) - ice-cream - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	11	0	7	0
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	19	0		
Dairy products (excluding cheeses) - yoghurt - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	279	0	123	0

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Milk, cows' - raw milk - intended for direct human consumption - at farm - Surveillance			
Milk, cows' - pasteurised milk - at processing plant - Surveillance	7	0	0
Milk, goats' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance			
Milk, goats' - raw milk - intended for direct human consumption - at farm - Surveillance			
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	2	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	743	6	3

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	117	0	0
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at processing plant - Surveillance	20	0	0
Cheeses made from cows' milk - hard - made from pasteurised milk - at processing plant - Surveillance	10	0	0
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance			
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	5	0	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance			
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance			
Cheeses made from sheep's milk - hard - made from pasteurised milk - at processing plant - Surveillance			
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance			

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at processing plant - Surveillance			
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at retail - Surveillance	2	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance			
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - made from pasteurised milk - at processing plant - Surveillance	225	0	0
Dairy products (excluding cheeses) - ice-cream - at processing plant - Surveillance	4	0	0
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance	19	0	0
Dairy products (excluding cheeses) - yoghurt - at processing plant - Surveillance	156	0	0

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample > meat		Batch	25g	10	1	10	1
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	434	1	377	1
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	24	0		
Meat from pig - fresh - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample > meat		Batch	25g	33	5	32	4
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	3748	27	2994	23
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	96	0		
Meat from bovine animals - fresh - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	137	3	122	0
Meat from bovine animals - meat products - cooked, ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	2	0		
Fish - smoked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	131	5	84	2
Fish - smoked - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	38	1		
Molluscan shellfish - cooked - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	13	1	12	0
Infant formula - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	16	0		

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	28	0		
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	77	1	15	1
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	15	0	15	0
Chocolate - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	2	0		
Confectionery products and pastes - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	310	3	7	3
Confectionery products and pastes - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	12	0		
Fish - raw - at retail - Monitoring	NIPH	Census	Official sampling	food sample		Single	25g	24	3	24	3
Fish - smoked - at retail - Surveillance	NIPH	Objective sampling	Official sampling	food sample		Single	25g	12	0	12	0
Fruits - pre-cut - ready-to-eat - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	3	0	2	0
Meat from bovine animals - fresh - at retail - Monitoring	NIPH	Census	Official sampling	food sample		Single	25g	36	13	36	13
Meat from pig - meat products - unspecified, ready-to-eat - at retail - Monitoring	NIPH	Census	Official sampling	food sample		Single	25g	12	1	12	1
Meat from turkey - meat products - cooked, ready-to -eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	2	0		
Other processed food products and prepared dishes - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	21	0	20	0

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Other processed food products and prepared dishes - sandwiches - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	195	1	42	0
Ready-to-eat salads - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	209	0	37	0
Ready-to-eat salads - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	77	0		
Ready-to-eat salads - containing mayonnaise - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	25g	506	9	382	8
Sauce and dressings - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	9	0		
Sauce and dressings - mayonnaise - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	2	0	2	0
Seeds, sprouted - ready-to-eat - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	4	0	2	0
Seeds, sprouted - ready-to-eat - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	10	0		
Vegetables - pre-cut - ready-to-eat - at processing plant - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	25g	18	0	3	0

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance			

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance	57	0	0
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance	24	0	0
Meat from pig - fresh - at processing plant - Surveillance	1	0	1
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance	754	0	4
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance	96	0	0
Meat from bovine animals - fresh - at processing plant - Surveillance	15	0	3
Meat from bovine animals - meat products - cooked, ready-to-eat - at retail - Surveillance	2	0	0
Fish - smoked - at processing plant - Surveillance	47	0	3
Fish - smoked - at retail - Surveillance	38	0	1
Molluscan shellfish - cooked - at processing plant - Surveillance	1	1	0
Infant formula - at retail - Surveillance	16	0	0
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	28	0	0

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	77	0	0
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	15	0	0
Chocolate - at retail - Surveillance	2	0	0
Confectionery products and pastes - at processing plant - Surveillance	303	0	0
Confectionery products and pastes - at retail - Surveillance	12	0	0
Fish - raw - at retail - Monitoring			
Fish - smoked - at retail - Surveillance	12	0	0
Fruits - pre-cut - ready-to-eat - at processing plant - Surveillance	1	0	0
Meat from bovine animals - fresh - at retail - Monitoring			
Meat from pig - meat products - unspecified, ready-to-eat - at retail - Monitoring	12	1	0
Meat from turkey - meat products - cooked, ready-to -eat - at retail - Surveillance	2	0	0
Other processed food products and prepared dishes - at processing plant - Surveillance	1	0	0
Other processed food products and prepared dishes - sandwiches - at processing plant - Surveillance	153	0	1

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Ready-to-eat salads - at processing plant - Surveillance	172	0	0
Ready-to-eat salads - at retail - Surveillance	77	0	0
Ready-to-eat salads - containing mayonnaise - at processing plant - Surveillance	124	1	0
Sauce and dressings - at processing plant - Surveillance	9	0	0
Sauce and dressings - mayonnaise - at processing plant - Surveillance			
Seeds, sprouted - ready-to-eat - at processing plant - Surveillance	2	0	0
Seeds, sprouted - ready-to-eat - at retail - Surveillance	10	0	0
Vegetables - pre-cut - ready-to-eat - at processing plant - Surveillance	15	0	0

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

A. Verotoxigenic Escherichia coli infections general evaluation

History of the disease and/or infection in the country

Occurrence of the zoonotic agent or disease is sporadic and in human population there was no clinical case of the disease.

National evaluation of the recent situation, the trends and sources of infection

SVA: In the year 2011 there were 4 positive findings from foodstuffs.
CAFIA: in the year 2011 no positive finding from foodstuffs was found out.

Relevance of the findings in animals, feedingstuffs and foodstuffs to human cases (as a source of infection)

There was no relevance between finding in animals and foodstuffs to human.

Recent actions taken to control the zoonoses

SVA: Sampling for monitoring of VTEC was performed at slaughterhouses during June, July and August. The samples have been taken from carcass swabs of pig and bovine animals. Swabs were taken from 4 places on the carcass. The area of the swab is 100 cm2. Samples are tested in state veterinary institutes.
CAFIA: sampling for monitoring STEC was performed at processing plants (dried seeds for sprouting) and at retail level (sprouts, ready-to-eat) from July to September.

Additional information

SVA: The horizontal method for the detection of Escherichia coli O157 (ISO16654:2001) was used for testing of samples of food for VTEC in routine diagnostic laboratories. Suspected isolates were tested in the national reference laboratory. The isolates were tested for somatic O-antigen by agglutination and for genetic code for VT production (vtx) and intimin production (eae) by PCR. Production of verotoxins was tested on Vero cells. Somatic O-antigens of suspected strains were tested for more frequent serogroups by 70 O-antisera. Antisera O157, O26, O91, O103,O111, O145, O112, O128, O69, O71, O116, O139, O141, O142, O147, O153, O156 and others were used.
The results of these tests (vtx, eae) are not available. Monitoring was performed during June, July and August.
The new testing scheem (testing for vtx, eae etc.) has been applied since in October 2011 (after EHEC outbreak in Germany) and due to reason the detailed data about isolates are not availeble.

CAFIA: the methods according to ISO TS 13163 and EU-RL for E.coli: detection and identification of verotoxin - producing E.coli (VTEC) O104:H4 in food by real time PCR, Rome, 2 Jun 2011, were used in the national reference laboratory.

2.4.2 Escherichia coli, pathogenic in foodstuffs

Table VT E. coli in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Analytical Method	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample > milk		ISO 16654:2001	Batch	25ml	17	0	
Seeds, sprouted - ready-to-eat - at processing plant - Surveillance	CAFIA	Selective sampling	Official sampling	food sample		ISO/PRF TS 13136	Batch	100g	4	0	
Seeds, sprouted - ready-to-eat - at retail - Surveillance	CAFIA	Selective sampling	Official sampling	food sample		ISO/PRF TS 13136	Batch	100g	26	0	
Seeds, dried - at processing plant - Surveillance	CAFIA	Selective sampling	Official sampling	food sample		ISO/PRF TS 13136	Batch	100g	35	0	
Meat from bovine animals - carcase - at slaughterhouse - Monitoring	SVA	Census	Official sampling	food sample > carcass swabs		ISO 16654:2001	Batch	400cm2	1159	4	3
Meat from pig - carcase - at slaughterhouse - Monitoring	SVA	Census	Official sampling	food sample > carcass swabs		ISO 16654:2001	Batch	400cm2	1395	0	
Vegetables - non-pre-cut - at retail - Surveillance	CAFIA	Selective sampling	Official sampling	food sample		ISO/PRF TS 13136	Batch	100g	153	0	

	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance		

Table VT E. coli in food

	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Seeds, sprouted - ready-to-eat - at processing plant - Surveillance		
Seeds, sprouted - ready-to-eat - at retail - Surveillance		
Seeds, dried - at processing plant - Surveillance		
Meat from bovine animals - carcase - at slaughterhouse - Monitoring		1
Meat from pig - carcase - at slaughterhouse - Monitoring		
Vegetables - non-pre-cut - at retail - Surveillance		

Footnote:

One sample of a dried seed was genotype: vtx1-, vtx2-, hly-, eae+

2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1 General evaluation of the national situation

A. Tuberculosis general evaluation

History of the disease and/or infection in the country

Eradication of bovine tuberculosis caused by M. bovis in animal population was successfully completed in the CR by eradicatoin and control programme in 1968.

National evaluation of the recent situation, the trends and sources of infection

The whole territory of the Czech Republic is declared officially free of tuberculosis as regards bovine herds in accordance with Commission decision 2004/320/EC of 31 March 2004.

2.5.2 Mycobacterium in animals

A. Mycobacterium bovis in bovine animals

Status as officially free of bovine tuberculosis during the reporting year

The entire country free

The Czech Republic is free of Bovine tuberculosis caused by M. bovis since 1967 on the national level and from 2004 is declared as officially free in accordance with EU legislation on the base of Commission Decision 2004/320/EC.

Free regions

The whole territory of the Czech Republic is declared as officially free of tuberculosis (M. bovis) in relation to bovine herds.

Additional information

During the reporting year 2011 there was no occurrence and/or outbreak of bovine tuberculosis caused by Mycobacterium bovis in bovine animals.

Monitoring system

Sampling strategy

The sampling strategy and monitoring system is in accordance with Directive 64/432/EEC as amended.

Frequency of the sampling

Tuberculosis “ Alergenodiagnosis“ simple skin test (antigen "Bovitubal" M. bovis 28 000 IU)
Data of the last skin test must be checked prior to skin test in order to observe specified time period between individual examinations.

a)animals moved for further keeping in the Czech Republic “ examination of female animals over 24 months of age one month prior to the first movement 1x per year. The term movement means: outside the territory of a region
b)animals imported from third countries (excluding slaughter animals) examination of female animals over 6 weeks of age and breeding bulls. The examination must be carried out as soon as possible after arrival of animals to the place of destination with respect to eventual previous tuberculin test;
c)animals moved from Member States not having status of bovine tuberculosis officially free country or region (excluding slaughter animals)and examination of female animals over 6 weeks of age and breeding bulls. The examination must be carried out as soon as possible after arrival of animals to the place of destination with respect to eventual previous tuberculin test;
d)breeding bulls in BBRH examination within 28 days prior to basic selection;
e)breeding bulls prior to admission to semen collection centres examination in accordance with Annex 2 to Decree No. 380/2003;
f)breeding bulls in semen collection centres 1x per year examination in accordance with Annex 2 to Decree No. 380/2003.

Type of specimen taken

skin test

Methods of sampling (description of sampling techniques)

The place of antigen application is situated at the border of the anterior and middle thirds of the neck. The skin must be without pathological changes, equally thick with the possibility of an easy cutaneous drape formation. The place of tuberculin administration is perfectly cut and cleaned. The cutaneous drape is formed with the thumb and the point finger and its thickness is after cutimetre measuring recorded. The dosage of 0.1 ml of tuberculin is applicated by means of a short sterile needle, bevel edge outwards, with graduated syringe charged with tuberculin, inserted obliquely into the deepest layers of the skin. The right reaction after intradermal administration - the papula formation in the place of allergen inoculation - must be detected by palpation. If the tuberculin was not administered intradermally, it is possible to repeat the administration in the same place in the prescribed dosage. If the skin is injured during cutting or if skin changes are determined before tuberculin administration, it is necessary to inoculate tuberculin on another place of the same neck side. The origin place is cancelled with the hair cut.

Case definition

Negative reaction: If there is apparent only bordered swelling with the cutaneous drape strengthening of max. 2 mm without clinical symptoms as diffusion or large swelling, exudation, necrosis, painfulness or inflammation reaction of the corresponding lymphatic vessels or lymphatic nodes. Dubious reaction: If there is apparent no clinical symptom stated in item a) but the cutaneous drape strengthening is higher than 2 mm but lower than 4 mm. Positive reaction: If there are apparent clinical symptoms stated in item a) or the cutaneous drape in the place of application is thicker by 4 mm or more.

Diagnostic/analytical methods used

Simple skin test has been performed with tuberculin BOVITUBAL 28000 IU/ml (Bioveta, CZ) which contains tuberculin protein from Mycobacterium bovis (strain AN 5). The dose for one animal is 0,1ml. The diagnostic method is in accordance with recommendation OIE.

Vaccination policy

Vaccination is strictly prohibited.

Other preventive measures than vaccination in place

All slaughtered bovine animals were under veterinary control. The official post mortem veterinary examination is carry out in slaughterhouses by the official veterinarian in accordance with EU legislation.

Control program/mechanisms

The control program/strategies in place

The control of bovine tuberculosis is performing in accordance with 64/432/EC as amended.

Measures in case of the positive findings or single cases

In the case of positive results of examination the appropriate RVA issued extraordinary veterinary measures in accordance with Veterinary Act (CZ legislation) and EU legislation.

Notification system in place

Notification system is lay down by the Act No. 166/1999 on veterinary care and amending certain related laws (Veterinary Act), as amended.

Results of the investigation

If the result of investigation is positive, the person responsible for the laboratory carrying out the examination, the person carrying out the examination or the owner of the animals shall notify the results to the competent authority.

National evaluation of the recent situation, the trends and sources of infection

In the Czech Republic bovine tuberculosis was suppressed in frame of the nationwide sanitation program (1959 - 1968) on 10 October 1968. The post-eradication period (1969 - 1999) was characterized by the extinction of reservoir sources. Currently only the sporadic cases of the bovine tuberculosis incidence have been recorded. In 1981, 1987 to 1990, 1993 and 1996 any bovine tuberculosis incidence was not

found. Thereat in other years, from 1980 to 1995, at the most three outbreaks of tuberculosis ever appeared in cattle. The participation of the infected animals in individual stocks was very low and never exceeded 5 to 10% of animals. In 1970 to 1995 the Mycobacterium bovis infection was also diagnosed in other 119 animals (zoo, wild live, backyard) and in ten milk specimens. By course of the O.I.E. (International Animal Health Code,chapter 3.2.3.) definition the territory of the Czech Republic is free from bovine tuberculosis (the prevalence up to 0,2% of infected cattle stocks).

Relevance of the findings in animals to findings in foodstuffs and to human cases (as a source of infection)

There is an paradox situation because human become risk for animals, mainly workers from easter third countries can be source of infection for animals.

Additional information

In the year 2011 were tested 6338 animals by single skin test without positive results. Number of animals with suspicious lesions of tuberculosis were 5. All this lesions were detected as negative for M. bovis, M. tuberculosis or M. avium.

In the framework of the health control paid by the state, bovine tuberculosis is currently monitored in the CR as follow: single tuberculin test , simultaneous tuberculin test, laboratory examination (section, histological investigation and bacteriological investigation), serological investigation.

Table Tuberculosis in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Mycobacterium	M. bovis	M. tuberculosis	Mycobacterium spp., unspecified
Goats [1)]		Selective sampling	Official sampling			Animal	1557	0			
Pigs		Suspect sampling	Official sampling	animal sample > organ/tissue		Animal	270	106			12

	M. avium complex - M. avium subsp. avium	M. avium complex - M. avium subsp. hominissuis
Goats [1)]		
Pigs	86	8

Comments:

[1)] simple tuberculin test

Table Bovine tuberculosis in countries and regions that do not receive Community co-financing for eradication programmes

If present, the row "Total -1" refers to analogous data of the previous year.

Region	Total number of existing bovine		Officially free herds		Infected herds		Routine tuberculin testing		Number of tuberculin tests carried out before the introduction into the herds (Annex A(I)(2)(c) third indent (1) of Directive 64/432/EEC)	Number of animals with suspicious lesions of tuberculosis examined and submitted to histopathological and bacteriological	Number of animals detected positive in bacteriological examination
	Herds	Animals	Number of herds	%	Number of herds	%	Interval between routine tuberculin tests	Number of animals tested			
Česká Republika	19658	1324350	19658	100	0	0	others, please specify _simple	6338	6338	5	0
Total : [1)]	19658	1324350	19658	100	0	0	N.A.	6338	6338	5	0

Comments:

[1)] N.A.

Footnote:

others, please specify:
simple tuberculin test in
- all imported females (except animals for slaughter) and breeding bulls from third countries older than 6 weeks
- all removed females (except animals for slaughter) older than 6 weeks and breeding bulls older than 6 weeks from MS, which have not status of free country
- all breeding bulls___

2.6 BRUCELLOSIS

2.6.1 General evaluation of the national situation

A. Brucellosis general evaluation

History of the disease and/or infection in the country

In 1964 the program for eradication and control of bovine brucellosis in cattle caused by B. abortus was successfully completed.
Ovine and caprine brucellosis caused by B. melitensis has never been occured in the Czech Republic.

2.6.2 Brucella in animals

A. Brucella abortus in bovine animals

Status as officially free of bovine brucellosis during the reporting year

The entire country free

The Czech Republic is free of bovine brucellosis since 1964 at the natinal level and since 2004 is declared as officially free of bovine brucelosis according to Commission Decision 2004/320/EC.

Additional information

During the reporting year 2011 there was no occurrence and/or outbreak of bovine brucellosis on the whole territory of the Czech Republic.

Monitoring system

Sampling strategy

Samples are taken from:
1, All holdings of cattle, which do not supply milk to dairy - all animals from age 24 months, all breeding bulls, all abortion animals -blood samples.
2, All holdings of cattle, where is more than 100 heads, which supply milk to diary - all animals from age 24 months - blood samples.
3, Abortion foetuses in indicated caases.
4, All holdings of milk cows, where is less than 100 heads, which supply milk to diary - bulk milk samples

Frequency of the sampling

Sampling scheme:
a)breeding bulls in breeding bulls rearing house - examination within 28 days prior to basic selection;
b) breeding bulls prior to admission to semen collection centres - examination in accordance with Annex 2 to Decree No. 380/2003;
c)breeding bulls in semen collection centres 1x per year examination in accordance with Annex 2 to Decree No. 380/2003.
Brucellosis serological examination
a) all bovine holdings (herds) not delivering milk or not authorized to local sale of milk examination of all animals over 24 months of age and breeding bulls in natural matting 1x per year;
b) animals imported from third countries (excluding slaughter animals) examination of female animals over 24 months of age and breeding bulls. The examination must be carried out at most 1 month after arrival of animals to the place of destination;
c)animals moved from Member States not having status of bovine brucellosis officially free country or region (excluding slaughter animals) examination of female animals over 24 months of age and breeding bulls. The examination must be carried out at most 1 month after arrival of animals to the place of destination.

Brucellosis serological examination(RBT or ELISA) number of milking cows is recorded. Blood samples from all bovine holdings, where is more than 100 heads delivering milk to dairy plants or authorized to local sale of milk examination of all animals older 24 moths 1x per year.

Brucellosis examination of milk (ELISA) number of milking cows is recorded. Bulk milk samples from all bovine holdings, where is less than 100 heads delivering milk to dairy plants or authorized to local sale of milk examination 2x per year in interval of at least 3 months. The examination of 100 dairy cows at most.

Brucellosis
All aborting cows are serologicaly tested after abortion.

Brucellosis
Abortions and amnia examination in indicated cases.

Type of specimen taken

milk, blood, abortion foetus

Diagnostic/analytical methods used

The diagnostic methods are used in accordance with Directive 64/432/EEC, Regulation 2004/226/EEC.
RBT, Complement fixation test, ELISA, slow agglutination.

Vaccination policy

Vaccination is strictly prohibited.

Other preventive measures than vaccination in place

Control of animals movement between regions and control of imported animals.

B. Brucella melitensis in goats

Status as officially free of caprine brucellosis during the reporting year

The entire country free

The whole teritory of the Czech Republic is officially free of Sheep and goat brucelosis in accordance with Commision Decision No. 320/2004/EC.

Monitoring system

Sampling strategy

The sampling strategy was done by State Veterinary Administration in Methodology of control of animal healts which is lay down in accordance with Veterinary Act No. 166/1999 as amended.

Frequency of the sampling

Caprine brucellosis (B. melitensis)

- Aborting goats serological examination after abortion.

- Breeding goats in matting examination 1x per year in accordance with Annex 9 to Decree No. 380/2003.

- Holdings (herds) producing young breeding he-goats where performance checks are carried out examination 1x per year. Representative number of animals shall include:
a) all non-castrated male animals over 6 months of age;
b) 25% of female animals of reproduction age (sexually mature) or lactating examination of at least 50 female animals (all animals in holdings containing less than 50 animals);
c) all animals over 6 months of age introduced to the holding after the previous testing.

- Abortions or amnia are bacteriologicaly testedin indicated cases.

Type of specimen taken

Blood

Methods of sampling (description of sampling techniques)

The methods of sampling is in according with Annex of the Council Decision 90/242/EEC

Diagnostic/analytical methods used

The diagnostic methods were used in accordance with Directive 64/432/EEC and Regulation 2004/226/EEC. RBT, CFT, ELISA and slow agglutination.

Vaccination policy

Vacination is strictly prohibited.

Other preventive measures than vaccination in place

Control of animals movement between regions and control of imported animals.

National evaluation of the recent situation, the trends and sources of infection

The disease has never been recorded in the Czech Republic.
In 2011 were tested all breeding male once a year, all abortioned goats after abortion and in holdings producing young breeding bucks were tested all bucks 6 months old and 25 % adult goats (min. 50 heads) once a year. 3590 samples in goats were tested for B. melitensis in year 2011 with negative results. Samples were tested by complement fixation test, Rose bengal test and slow agglutination.

Relevance of the findings in animals to findings in foodstuffs and to human cases (as a source of infection)

There are not relevancies of the findings to human cases as a source of infection.

C. Brucella melitensis in sheep

Status as officially free of ovine brucellosis during the reporting year

The entire country free

The Czech Republic is officialy free of ovine brucelosis in accordance with 320/2004/EC.

Free regions

All regions in the Czech republic are free of ovine brucelosis (B. melitensis) and the disease has never been found in the Czech Republic.

Monitoring system

Sampling strategy

The sampling strategy was done by State Veterinary Administration in Methodology of control of animal health which is laid down in accordance with Veterinary Act No. 166/1999 as amended.

Frequency of the sampling

Ovine and caprine brucellosis (B. melitensis)

Licensed breeding rams examination 1x per year in accordance with Annex 9 to Decree No. 380/2003.

Holdings (herds) producing young breeding rams where performance checks are carried out examination 1x per year. Representative number of animals shall include:
a) all non-castrated male animals over 6 months of age;
b) 25% of female animals of reproduction age (sexually mature) or lactating examination of at least 50 female animals (all animals in holdings containing less than 50 animals);
c) all animals over 6 months of age introduced to the holding after the previous testing.

Aborting ewes are serologicaly tested once after abortion.

Ovine and caprine brucellosis (B. melitensis) LE (A + BE)
Abortions or amnia examination in indicated cases.

Type of specimen taken

blood and foetuses

Methods of sampling (description of sampling techniques)

The methods of sampling and testing is in according with Annex of the Council Decision 90/242/EEC

Vaccination policy

Vaccination is strictly prohibited.

Other preventive measures than vaccination in place

Control of animals movement between regions and control of imported animals.

Table Brucellosis in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Brucella	B. abortus	B. melitensis	B. suis
Pigs		Selective sampling	Official sampling	animal sample > blood		Animal	88475	0			
Dogs - pet animals - unspecified - Unspecified		Suspect sampling	Not applicable	animal sample > blood		Animal	55	0			
Hares - wild - in total - Monitoring - active		Objective sampling	Official sampling	animal sample > blood		Animal	110	8			8

	Brucella spp., unspecified
Pigs	
Dogs - pet animals - unspecified - Unspecified	
Hares - wild - in total - Monitoring - active	

Table Ovine or Caprine Brucellosis in countries and regions that do not receive Community co-financing for eradication programme

If present, the row "Total -1" refers to analogous data of the previous year.

Region	Total number of existing		Officially free herds		Infected herds		Surveillance			Investigations of suspect cases				
	Herds	Animals	Number of herds	%	Number of herds	%	Number of herds tested	Number of animals tested	Number of infected herds	Number of animals tested with serological blood tests	Number of animals positive serologically	Number of animals examined microbio logically	Number of animals positive microbio logically	Number of suspended herds
Česká Republika	18610	261266	18610	100	0	0	2015	17914	0	36	0	2	0	0
Total : [1)]	18610	261266	18610	100	0	0	2015	17914	0	36	0	2	0	0

Comments:

[1)] N.A.

Table Bovine brucellosis in countries and regions that do not receive Community co-financing for eradication programme

If present, the row "Total -1" refers to analogous data of the previous year.

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance						Investigations of suspect cases								
							Serological tests			Examination of bulk milk			Information about			Epidemiological investigation					
	Herds	Animals	Number of herds	%	Number of herds	%	Number of bovine herds tested	Number of animals tested	Number of infected herds	Number of bovine herds tested	Number of animals or pools tested	Number of infected herds	Number of notified abortions whatever cause	Number of isolations of Brucella infection	Number of abortions due to Brucella abortus	Number of animals tested with serological blood tests	Number of suspended herds	Number of positive animals		Number of animals examined microbio logically	Number of animals positive microbio logically
																		Sero logically	BST		
Česká Republika	19658	1324350	19658	100	0	0	17360	536954	0	2301	130042	0	4922	0	0	62	3	0		3	0
Total : [1)]	19658	1324350	19658	100	0	0	17360	536954	0	2301	130042	0	4922	0	0	62	3	0	0	3	0

Comments:

[1)] N.A.

2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

2.7.2 Yersiniosis in humans

A. Yersinosis in humans

History of the disease and/or infection in the country

Relevance as zoonotic disease

2.8 TRICHINELLOSIS

2.8.1 General evaluation of the national situation

A. Trichinellosis general evaluation

History of the disease and/or infection in the country

The trichinellosis is very rare disease in wild life animals. The main sourse of the infection in the Czech Republic are wild boars.

National evaluation of the recent situation, the trends and sources of infection

The occurence of the disease in animals and humans is sporadic and the situation is stable.

Relevance of the findings in animals, feedingstuffs and foodstuffs to human cases (as a source of infection)

There was no relevance between finding in animals and finding in human.

2.8.2 Trichinella in animals

A. Trichinella in horses

Monitoring system

Sampling strategy

All horses at slaughter are tested for trichinella. The samples are taken by veterinary authorities in the slaughterhouses.

Diagnostic/analytical methods used

Digestive method in accordance with Commission regulation (EC) No 2075/2005.

B. Trichinella in pigs

Number of officially recognised Trichinella-free holdings

There are no officially recognised Trichinella-free holdings in the Czech Republic.

Monitoring system

Sampling strategy

General

All carcasses of pigs are investigated in slaughterhouses. The sampling strategy is realized in accordance with the Veterinary Act No. 166/1999 coll., as amended.

Frequency of the sampling

General

All carcasses of pigs are investigated at slaughterhouses and all hunted wild boars for human consumption were tested for the presence of trichinella according to the Veterinary Act No. 166/1999 coll., as amended.

Type of specimen taken

General

Diaphragm muscles were taken and in the case of absence of diaphragm - the jaw muscle, tongue or abdominal muscles were sampled.

Methods of sampling (description of sampling techniques)

General

The digestive method is used as an approved method in accordance with Commission Regulation (EC) No 2075/2005.

Case definition

General

Presence of cyst or organism Trichinella spp. in muscles.

Diagnostic/analytical methods used

General

The digestive method was carried out in accordance with 2075/2005/EC.

Control program/mechanisms

The control program/strategies in place

The control program was made in accordance with 77/96/EC till the end of November 2005. The investigations were carried out in accordance with Comission Regulation (EC) No 2075/2005 from December 2005.

Measures in case of the positive findings or single cases

The meat from positive carcass is excluded from the food chain.

Results of the investigation including description of the positive cases and the verification of the Trichinella species

Fattening pigs raised under controlled housing conditions in integrated production system

All fattening pigs slaughtered in the slaughterhouses are tested for Trichinella spp. The positive case means presence of Trichinella spp. in muscles detected by the digestive method.

Fattening pigs not raised under controlled housing conditions in integrated production system

Pigs slaughtered at home only for owner consumption are not under official veterinary control. The veterinary control is in that case voluntary.

Breeding sows and boars

All breeding sows and boars are sampled in slaughterhouses.

National evaluation of the recent situation, the trends and sources of infection

The occurrence of Trichinella in pigs is very rare and sporadic. In the year 2011 was detected 2 positive cases of wild boar. Any positive case of domestic pigs was not detected.

Table Trichinella in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Trichinella	T. spiralis	Trichinella spp., unspecified	T. pseudospiralis
Pigs - fattening pigs	SVA	Objective sampling	Official sampling	animal sample		Animal	3053433	0			
Solipeds, domestic - horses - at slaughterhouse - Surveillance	SVA	Objective sampling	Official sampling	animal sample		Animal	432	0			
Wild boars - wild - from hunting - Surveillance	SVA	Objective sampling		animal sample		Animal	99772	2			2

2.9 ECHINOCOCCOSIS

2.9.1 General evaluation of the national situation

A. Echinococcus spp. general evaluation

History of the disease and/or infection in the country

Until 1965 occurred echinococcosis only sporadically in 2% of keepings (low capacity stables) and was minimized and later totally eradicated by innovation and using high capacity stables (restricted access of rodents).

National evaluation of the recent situation, the trends and sources of infection

The monitoring programe for Echinococcus in wildlife red foxes was introduced in the year 2005. In the year 2011 the samples were taken from foxes which were hunted for rabies vaccination efficiency control. In the frame of the programme, 1484 samples from foxes were tested for echinococcosis. 500 samples were positive for E. multilocularis.

Relevance of the findings in animals, feedingstuffs and foodstuffs to human cases (as a source of infection)

Thanks to the post mortem inspection of all carcasses the risk of releasing infected carcasses is minimized. There was no relevance between findings in animals and humans in the year 2011.

Recent actions taken to control the zoonoses

Investigation is performed in two foxes which were hunted or found dead on every 100 km2 of hunting area per year.

2.9.2 Echinococcus in animals

Table Echinococcus in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis
Foxes - Monitoring	SVA	Objective sampling	Official sampling	animal sample		Animal	Česká Republika	1484	500		500

	Echinococcus spp., unspecified
Foxes - Monitoring	

2.10 TOXOPLASMOSIS

2.10.1 General evaluation of the national situation

2.11 RABIES

2.11.1 General evaluation of the national situation

A. Rabies general evaluation

History of the disease and/or infection in the country

The importance of foxes in rabies epidemiology increased and red fox became the principal vector of rabies in the Czech Republic. Neither subsidiaries payment for hunted foxes, which was introduced in 1969, nor gassing of fox dens, carried out during 1979-1984, did not improved the situation. In the 1980s rabies reached its greatest geographical range. With the exception of several districts, the whole territory of the Czech Republic was affected. The oral vaccination of foxes was launched in a few districts adjacent to German borders in 1989 and implemented further thereafter. Since that time continual decline has been visible especially since 1992 when positive effect of oral vaccination has become evident. Last occurrence of Rabies in the Czech Republic was recorded in 2002 in fox at Poland border. One case of Bat rabies was recorded in 2005. In 2004 Czech Republic fulfilled OIE criteria and has been recognize as country free of Rabies. Thanks to good epidemiological situation in neighbouring countries, the vaccination program was finished in 2009 and since 2010 the oral vaccination programme of foxes is not carry out.

National evaluation of the recent situation, the trends and sources of infection

The last outbreak of Rabies was reported in April 2002. The last occurence of Rabies was reported in one bat in year 2005. There was no outbreak in wildife or domestic animals since April 2002. The vaccination is not performed since 2010 and targeted monitoring in wild life animals is ongoing. Vaccination of dogs is still mandatory according to the legislation.

Relevance of the findings in animals, feedingstuffs and foodstuffs to human cases (as a source of infection)

Only three cases in human were diagnosed during last years.(1968 -1 woman-Fox; 1973-1 man-Dog India; 1989-1 man-Unknown in Vietnam)

Recent actions taken to control the zoonoses

Domestic animals

Preventive vaccination of domestic carnivores and if necessary, domestic herbivores are the principal methods of domestic animals protection. The inactivated tissue-culture vaccines are used exclusively for this purpose.

2.11.2 Lyssavirus (rabies) in animals

A. Rabies in dogs

Monitoring system

Diagnostic/analytical methods used

Fluorescent Antibody Test (FAT) on smears from hippocampus or medulla oblongata

Vaccination policy

Antirabies vaccination is obligatory acording to Veterinary Act No 166/1999. Every breeder has to ensure that dogs and some other animals kept in captivity, particulary foxes, badgers and martens, are vaccinated against rabies at their age of 3 months and then revaccinated in regular intervals. The vaccination is carry out by private veterinariens at the owners expenses.

Other preventive measures than vaccination in place

All dogs which bite a man must be clinically investigated by the veterinarien 1st and 5th day after bite.

Control program/mechanisms

The control program/strategies in place

Programme for oral vaccination of foxes was finished at the end of 2009. In case of necesary is possibility to perform emergency vaccination according to epidemiological situation.

Notification system in place

Rabies is notifieble disease and the notification system is lay down by the Act No. 166/1999, as amended(Veterinary Act).

Results of the investigation

The person responsible for the clinical investigation and laboratory testing have to notify the positive results to the competent authority.

Table Rabies in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Rabies virus (RABV)	EBLV-1
Sheep		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	2	0		
Solipeds, domestic		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	1	0		
Bats - wild - Monitoring		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	19	0		
Foxes - wild - Monitoring		Suspect sampling	Official sampling	animal sample > blood		Animal	Česká Republika	3416	0		
Raccoon dogs - wild - Monitoring		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	4			
Budgerigars - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	5	0		
Cats - pet animals - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	176	0		
Dogs - pet animals - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	119	0		
Ferrets - pet animals - in total - Unspecified		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	3	0		
Guinea pigs - pet animals - in total - Unspecified		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	1	0		
Hamsters - pet animals - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	1	0		
Marten - wild - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	23	0		
Other animals - wild - unspecified - Unspecified		Suspect sampling	HACCP and owns check	animal sample		Animal	Česká Republika	65	0		
Rabbits - pet animals - in total		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	2	0		
Wild boars - wild - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample		Animal	Česká Republika	3	0		

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Sheep		
Solipeds, domestic		
Bats - wild - Monitoring		
Foxes - wild - Monitoring		
Raccoon dogs - wild - Monitoring		
Budgerigars - unspecified - Unspecified		
Cats - pet animals - unspecified - Unspecified		
Dogs - pet animals - unspecified - Unspecified		
Ferrets - pet animals - in total - Unspecified		
Guinea pigs - pet animals - in total - Unspecified		
Hamsters - pet animals - unspecified - Unspecified		
Marten - wild - unspecified - Unspecified		
Other animals - wild - unspecified - Unspecified		
Rabbits - pet animals - in total		
Wild boars - wild - unspecified - Unspecified		

2.12 STAPHYLOCOCCUS INFECTION

2.12.1 General evaluation of the national situation

2.13 Q-FEVER

2.13.1 General evaluation of the national situation

A. Coxiella burnetii (Q-fever) general evaluation

National evaluation of the recent situation, the trends and sources of infection

In 2008 - 2010 there was no case of Q fever in human population. The situation in animal population is morless unknown because no monitoring. The Q fever is notifiable disease, however, the outbreak has not been recorded in past years.

Recent actions taken to control the zoonoses

Monitoring of Q fever in cattle and sheep population has been introduced in 2011. Targeted sampling has been done in aborted animals. Blood samples has been tested serologicaly first by ELISA test. In case of ELISA positive result the CFT test has been used as confirmatory test.

2.13.2 Coxiella (Q-fever) in animals

Table Coxiella burnetii (Q fever) in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Analytical Method	Sampling unit	Units tested	Total units positive for Coxiella (Q-fever)	C. burnetii	No of clinically affected herds
Cattle (bovine animals) - at farm - Monitoring	SVA	Suspect sampling	Not applicable	animal sample > blood		Complement fixation test (CFT)	Animal	4882	406	406	
Sheep - at farm - Monitoring	SVA	Suspect sampling	Not applicable	animal sample > blood		Complement fixation test (CFT)	Animal	21	0	0	

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

3.1.2 Antimicrobial resistance in Escherichia coli, non-pathogenic

Table Cut-off values used for antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Animals

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		16	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.25	
Fluoroquinolones	Ciprofloxacin		0.03	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	

Table Cut-off values used for antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Animals

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

Table Cut-off values used for antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Feed

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		16	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.25	
Fluoroquinolones	Ciprofloxacin		0.03	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

Table Cut-off values used for antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Food

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		16	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.25	
Fluoroquinolones	Ciprofloxacin		0.03	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

3.2 ENTEROCOCCUS, NON-PATHOGENIC

3.2.1 General evaluation of the national situation

3.2.2 Antimicrobial resistance in Enterococcus, non-pathogenic isolates

Table Cut-off values for antibiotic resistance of E. faecalis in Animals

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		512	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		32	

Table Cut-off values for antibiotic resistance of E. faecalis in Animals

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	

Table Cut-off values for antibiotic resistance of E. faecalis in Feed

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		512	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	

Table Cut-off values for antibiotic resistance of E. faecalis in Food

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		512	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	

Table Cut-off values for antibiotic resistance of E. faecium in Animals

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		128	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	

Table Cut-off values for antibiotic resistance of E. faecium in Feed

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		128	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	

Table Cut-off values for antibiotic resistance of E. faecium in Food

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		128	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 ENTEROBACTER SAKAZAKII

4.1.1 General evaluation of the national situation

4.1.2 Cronobacter in foodstuffs

A. Enterobacter sakazakii in foodstuffs

Monitoring system

Sampling strategy

There is no official National program for the monitoring of Enterobacter sakazakii at food business operators. SVA tested 5 samples of milk powder with negative results. As there was only such a small number of samples we do not provide any additional comments.

Control program/mechanisms

Recent actions taken to control the hazard

Results of the investigation

Table Enterobacter sakazakii in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Cronobacter	Cronobacter spp, unspecified
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - domestic production - Unspecified	SVA	Unspecified	HACCP and owns check	food sample		Batch	500 g	5	0	

4.2 HISTAMINE

4.2.1 General evaluation of the national situation

4.2.2 Histamine in foodstuffs

A. Histamine in foodstuffs

Monitoring system

Sampling strategy

There is no official National program for monitoring of histamin at retail. CAFIA performed control at retail according to Commission Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs (as amended by EU Regulation No. 1441/2007 and Regulation No. 365/2010).

Samples were collected by competent authority as part of an official sampling from 7 regions of the Czech Republic 11-times within a year by the inspectors and analysed in CAFIA laboratory. The sampling by CAFIA was random.

Frequency of the sampling

11-times a year an one sample.

Type of specimen taken

fish products

Methods of sampling (description of sampling techniques)

Sample of 100 grams minimum each of (n=9) is taken in a sterile way, into clean and dry plastic bag. The samples are placed into refrigerated container and immediately sent to the laboratory for investigation. Numbers of subsamples n=9 were taken in accordance with Commission Regulation (EC) No 2073/2005.

Definition of positive finding

Batch in non-conformity - a batch for which the mean value of the sample units exceeds 100 mg/kg or 200 mg/kg.

Diagnostic/analytical methods used

HPLC in accordance with Regulation (EC) No 2073/2005.

Control program/mechanisms

Recent actions taken to control the hazard

CAFIA monitored of histmin in accordance with Commission Regulation (EC) No 2073/2005 (as amended by EU Regulation No. 1441/2007 and Regulation No. 365/2010) in fishery products from fish species of the family Scombridae and Engraulidae.

Results of the investigation

In total, 11 samples of fishery products (1x mackerel, 7x sardine, 1x tuna, 2x sprats) were examined for presence of histamin. Two of the samples examined exceeded the mean value 100 mg/kg or 200 mg/kg.

Table Histamine in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units in non-conformity	<= 100 mg/kg	>100 - <= 200 mg/kg
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	100 g	10	1	9	0
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	100 g	1	1	0	0

	>200 - <= 400 mg/kg	> 400 mg/kg
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at retail - Surveillance	0	1
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at retail - Surveillance	0	1

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

4.3.2 Staphylococcal enterotoxins in foodstuffs

A. Staphylococcal enterotoxins in foodstuffs

Monitoring system

Sampling strategy

SVA – there was not any national program focused on the monitoring of staphylococcal enterotoxins in foodstuffs neither at the retail nor in the network of food business operators in 2011.
SVA performed control according to Regulation (EC) No 2073/2005 effective. SVA took the samples during or at the end of the production process.
CAFIA performed control at retail according to Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs (as amended by EU Regulation No. 1441/2007 and Regulation No. 365/2010).
Samples were collected by a competent authority as part of an official sampling from one region of the Czech Republic twice a year and analysed in the CAFIA laboratory. The sampling by CAFIA was random.

Frequency of the sampling

The sampling by SVA was random.
CAFIA performs sampling twice a year.

Type of specimen taken

Other: _cheese, milk powder, infant formula, other dairy products

Methods of sampling (description of sampling techniques)

SVA - Sample of 500 grams minimum each is taken in a sterile way, into clean and dry plastic bag. The samples are placed into refrigerated container and immediately sent to the laboratory for investigation.
CAFIA - Sample of 600 grams minimum each is taken in a sterile way, into clean and dry plastic bag. The samples are placed into refrigerated container and immediately sent to the laboratory for investigation.
Numbers of subsamples n=5 in accordance with Regulation (EC) No 2073/2005 were taken.

Definition of positive finding

SVA, CAFIA - The positive finding means the presence of staphylococal enterotoxins in 25g of sample.

Diagnostic/analytical methods used

European screening method (version V.) for the detection of staphylococcal enterotoxins in milk and milk products recommended in Regulation (EC) No 2073/2005 (Reference: Community reference laboratory for coagulase positive staphylococci).

Results of the investigation

SVA - in 2011, no sample out of total 26 of SVA samples was positive for staphylococcal enterotoxins.
In 2011, no sample out of total 20 of CAFIA samples was positive for staphylococcal enterotoxins.

Table Staphylococcal enterotoxins in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	500 g	16	0
Cheeses made from goats' milk - hard - made from pasteurised milk - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	500 g	4	0
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance	SVA	Objective sampling	Official sampling	food sample		Batch	500 g	4	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	600 g	6	0
Chocolate - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	600 g	2	0
Dairy products (excluding cheeses) - milk powder and whey powder - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	600 g	4	0
Infant formula - dried - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	600 g	6	0
Other food - unspecified - Unspecified	SVA	Objective sampling	HACCP and owns check	food sample		Batch	500g	2	0
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	CAFIA	Objective sampling	Official sampling	food sample		Batch	600 g	2	0

5. FOODBORNE

Foodborne outbreaks are incidences of two or more human cases of the same disease or infection where the cases are linked or are probably linked to the same food source. Situation, in which the observed human cases exceed the expected number of cases and where a same food source is suspected, is also indicative of a foodborne outbreak.

A. Foodborne outbreaks

System in place for identification, epidemological investigations and reporting of foodborne outbreaks

Epidemiological investigation of outbreaks are performed by regional public health authorities. After completing epidemiological investigation they provide MOH and National Institute of Public Health with written report on outbreak. Reports are mandatory for larger outbreaks. Summaries are published in yearly table.

Description of the types of outbreaks covered by the reporting:

Mainly general outbreaks are reported. Decision on reporting other outbreaks (mainly household outbreaks) are made by regional authorities. Individual data on disease episodes from specific outbreaks are notified in EPIDAT, general infectious disease notification system. Reporting doesn´t depend on causative agent.

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

Since the year 2000 the reported number of human cases involved in Salmonella outbreaks has descreased more than 10-times.

Relevance of the different causative agents, food categories and the agent/food category combinations

Causative agents: Salmonella enteritidis detected in clinical samples (stool) taken from outbreak cases. No particulare food vehicle is suspected.

Evaluation of the severity and clinical picture of the human cases

Non severe, only mild diarrhoeral diseases.

Table Foodborne Outbreaks: summarised data

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Salmonella - S. Typhimurium	0	0	0	0	0	0
Salmonella - S. Enteritidis	4	168	4	0	0	4
Salmonella - Other serovars	0	0	0	0	0	0
Campylobacter	0	0	0	0	0	0
Listeria - Listeria monocytogenes	0	0	0	0	0	0
Listeria - Other Listeria	0	0	0	0	0	0
Yersinia	0	0	0	0	0	0
Escherichia coli, pathogenic - Verotoxigenic E. coli (VTEC)	0	0	0	0	0	0
Bacillus - B. cereus	0	0	0	0	0	0
Bacillus - Other Bacillus	0	0	0	0	0	0
Staphylococcal enterotoxins	0	0	0	0	0	0
Clostridium - Cl. botulinum	0	0	0	0	0	0
Clostridium - Cl. perfringens	0	0	0	0	0	0

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Clostridium - Other Clostridia	0	0	0	0	0	0
Other Bacterial agents - Brucella	0	0	0	0	0	0
Other Bacterial agents - Shigella	0	0	0	0	0	0
Other Bacterial agents - Other Bacterial agents	0	0	0	0	0	0
Parasites - Trichinella	0	0	0	0	0	0
Parasites - Giardia	0	0	0	0	0	0
Parasites - Cryptosporidium	0	0	0	0	0	0
Parasites - Anisakis	0	0	0	0	0	0
Parasites - Other Parasites	0	0	0	0	0	0
Viruses - Norovirus	0	0	0	0	0	0
Viruses - Hepatitis viruses	0	0	0	0	0	0
Viruses - Other Viruses	0	0	0	0	0	0
Other agents - Histamine	0	0	0	0	0	0
Other agents - Marine biotoxins	0	0	0	0	0	0
Other agents - Other Agents	0	0	0	0	0	0

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Unknown agent	0	0	0	0	0	0