

SLOVAKIA

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

TRENDS AND SOURCES OF ZOONOSSES AND ZOOTIC AGENTS IN HUMANS, FOODSTUFFS, ANIMALS AND FEEDSTUFFS

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

IN 2012

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Slovakia

Reporting Year: 2012

Laboratory name	Description	Contribution
Public Health Authority of the Slovak Republic		food and FBO tables
State Veterinary and Food Administration of the Slovak Republic (SVFA)	SVFA manage, direct and control the exercise of state administration by regional and district veterinary and food administrations, Control Institute of veterinary drugs, state veterinary laboratories	reporting authority
State Veterinary Institute (Zvolen)	carry out laboratory analyses, laboratory diagnostics and testing of official samples taken at veterinary checks and controls of animal health and provide the services of laboratory diagnostics and testing	animal tables
State Veterinary and Food Institutes (Bratislava, Dolny Kubin, Kosice)	carry out laboratory analyses, laboratory diagnostics and testing of official samples taken at veterinary checks and controls of foodstuffs, feedingstuffs and animal health and provide the services of laboratory diagnostics and testing	animal, food and feed tables

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 Slovakia during the year 2012 .

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

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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

Central Evidence of Animals, statistics, District Veterinary and Food Administrations in the Slovak Republic

Dates the figures relate to and the content of the figures

31 December 2012

Table Susceptible animal populations

* Only if different than current reporting year

Animal species	Category of animals	Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
		Data	Year*	Data	Year*	Data	Year*	Data	Year*
Cattle (bovine animals)	calves (under 1 year)			1468					
	- in total	23066		40641		484322		23066	
Deer	farmed - in total	154						154	
Ducks	meat production flocks							9	
	breeding flocks, unspecified - in total							2	
Gallus gallus (fowl)	breeding flocks for egg production line - in total	33				292025			
	breeding flocks for meat production line - in total	126				1699777			
	breeding flocks, unspecified - in total	159				1991802		14	
	laying hens	415		194066		7742470		89	
	broilers	2307		38378936		36320748		17	
Geese	meat production flocks							10	
	breeding flocks, unspecified - in total							1	
Goats	- in total	2595		35		11034		2595	

Table Susceptible animal populations

Animal species	Category of animals	Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
		Data	Year*	Data	Year*	Data	Year*	Data	Year*
Pigs	- in total	7651		689142		502356		7651	
Sheep	animals under 1 year (lambs)			70661					
	- in total	7489		6587		406091		7489	
Solipeds, domestic	horses - in total	2146		43		4700		2146	
Turkeys	meat production flocks	14				31200		9	
	breeding flocks, unspecified - in total	49				124404		7	
	- in total			18565					
Wild boars	farmed - in total	25						25	

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

Recent actions taken to control the zoonoses

Recent actions taken to control the zoonoses

- official samples of foodstuffs taken by inspectors
- official controls of farm animal feed manufacturing
- in animals, samples were taken in case of ill or dead animals,
- national eradication programmes and surveys related to poultry.

2.1.2 Salmonella in foodstuffs

A. Salmonella spp. in food

Monitoring system

Sampling strategy

All obtained data were collected from the State Veterinary and Food Institutes, the State Veterinary Institute, Public Health Authorities in Slovakia.

The samples comprised of official samples taken by inspectors of the Veterinary and Food Administrations according direction of State Veterinary and Food Administration "Plan for sampling and laboratory examination of products of animal origin for official controls in 2008", according Regulation (EC) No 2073/2005 and within direction of SVFA the target control of sheep cheese samples taken directly in special sheep farm establishments.

The Public Health Authority of the Slovak Republic (PHA of the SR) and Regional Health Authorities in the Slovak Republic (RHA in the SR) performed the sampling of foodstuffs and raw materials in compliance with the multi-annual national plan of the official control carried out by public health authorities and its updating for the year 2008 and according Regulation (EC) No 2073/2005.

Samples are taken also in case of suspicion or consumers incentive.

All samples were tested in accordance with standardized international methods STN EN ISO 6579/A1.

Samples of foodstuffs were taken at all stages of food chain.

Frequency of the sampling

according to sampling plan, in case of suspicion or consumers incentive

Type of specimen taken

According Regulation (EC) No 2073/2005

Definition of positive finding

According Regulation (EC) No 2073/2005

Diagnostic/analytical methods used

Bacteriological method: STN EN ISO 6579/A1:2008

Preventive measures in place

According Regulation (EC) No 2073/2005

Control program/mechanisms

The control program/strategies in place

All obtained data were collected from the State Veterinary and Food Institutes, the State Veterinary Institute, Public Health Authorities in Slovakia.

The samples comprised of official samples taken by inspectors of the Veterinary and Food Administrations according direction of State Veterinary and Food Administration "Plan for sampling and laboratory examination of products of animal origin for official controls" and according Regulation (EC) No 2073/2005.

The Public Health Authority of the Slovak Republic (PHA of the SR) and Regional Health Authorities in the Slovak Republic (RHA in the SR) performed the sampling of foodstuffs and raw materials in compliance with the multi-annual national plan of the official control carried out by public health authorities and according Regulation (EC) No 2073/2005.

Samples are taken also in case of suspicion or consumers incentive.

All samples were tested in accordance with standardized international methods STN EN ISO 6579/A1.

Samples of foodstuffs were taken at all stages of food chain.

Measures in case of the positive findings or single cases

According Regulation (EC) No 2073/2005

Notification system in place

Rapid Alert System

Results of the investigation

See relevant tables.

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

In 2012 number of samples increased as well as number of positive samples. Regarding serovar diversity of Salmonella comparing past years since 2003 predominant serovar was S. Enteritidis. Since 2009 predominant serovar is S. Infantis.

The most common incidence was as in previous years in poultry meat, 20 positive samples were detected in fresh broiler meat, meat preparations, MSM, turkey neck skins. Predominant serovar was S. Infantis (12x) followed by S Enteritidis (3x), S. Kentucky (3x) and S. Typhimurium and Mbandaka 1x.

In meat from pigs and products thereof were detected 2x S. Infantis and 1x S. Enteritidis. S. 1,4,[5],12:i:- and S. Rissen. 1. S. Enteritidis was detected in minced meat made from mixed pork and beef meat.

In milk and milk products was detected 1 S. Enteritidis in sample of milk dessert.

In other foodstuffs, Salmonella was detected in 17 samples. Most positive samples came from eggs – 8x S. Enteritidis, 3x S. Typhimurium. In herbal teas were detected 2x S. Plymouth and 1x Enterica subs. salamae O:42H:z,-. 1x S. Napoli was found in pre-cut vegetable, S. Enteritidis in processed foods 1x in ready-to-eat and 1x in sandwich with meat.

Totally 44 serovars were isolated from foodstuffs. The most frequently isolated Salmonella was S. Infantis (16x), the second was S. Enteritidis-14x, followed by S. 4x Typhimurium, S. Kentucky (3x), S. Plymouth (2x), S. Napoli, S.Mbandaka, S. Enterica subs. salamae O: 42H: z, -, S. 1,4, [5], 12: i: - and S. Rissen (1x).

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) - carcase - at slaughterhouse - Surveillance	SVFI	Objective sampling	Official sampling	food sample > carcase swabs		Single	25 g	3	0		
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	10	2		
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	42	4		1
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	23	3		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	36	3	2	
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	11	0		
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	20	0		
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Meat from turkey - carcase - at slaughterhouse - Surveillance	SVFI	Objective sampling	Official sampling	food sample > carcase swabs		Batch	25 g	5	3		
Meat from turkey - fresh - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	7	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	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from turkey - meat products - raw but intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample > meat		Single	25 g	3	1	1	
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample > meat		Single	25 g	12	1		
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample > meat		Batch	25 g	1	0		
Meat from broilers (Gallus gallus) - fresh - frozen - at retail - Surveillance	SVFI8	Selective sampling	Official sampling	food sample > meat		Batch	25 g	8	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - frozen - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample			25 g	2	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - frozen - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample			25 g	4	0		
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	4	0		
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	4	0		
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	11	1		

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) - offal - liver - at border control - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from duck - fresh - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Meat from geese - fresh - chilled - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	1	0		
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	61	0		
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	15	0		
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Surveillance ¹⁾	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	3	0		
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	2	0		
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	73	0		
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	42	0		
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - chilled - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	4	0		
Meat from poultry, unspecified - mechanically separated meat (MSM) - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	3	2		

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 - fresh - frozen - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	1	0		
Meat from turkey - mechanically separated meat (MSM) - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Kentucky	S. Mbandaka						
Meat from broilers (Gallus gallus) - carcase - at slaughterhouse - Surveillance											
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance			2								
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			3								
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance			1								
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 retail - Surveillance											

Table Salmonella in poultry meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Kentucky	S. Mbandaka
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - at retail - Surveillance					
Meat from turkey - carcase - at slaughterhouse - Surveillance				3	
Meat from turkey - fresh - at retail - 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 retail - Surveillance					
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance					
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance					1
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance					
Meat from broilers (Gallus gallus) - fresh - frozen - at retail - Surveillance					
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - frozen - at processing plant - Surveillance					
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - frozen - at retail - Surveillance					

Table Salmonella in poultry meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Kentucky	S. Mbandaka
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - at processing plant - Surveillance					
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - at retail - Surveillance					
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - at retail - Surveillance			1		
Meat from broilers (Gallus gallus) - offal - liver - at border control - Surveillance					
Meat from duck - fresh - at retail - Surveillance					
Meat from geese - fresh - chilled - at retail - Surveillance					
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring					
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring					
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Surveillance ¹⁾					
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance					
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance					

Table Salmonella in poultry meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Kentucky	S. Mbandaka
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance					
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - chilled - at retail - Surveillance					
Meat from poultry, unspecified - mechanically separated meat (MSM) - at processing plant - Surveillance			2		
Meat from turkey - fresh - frozen - at retail - Surveillance					
Meat from turkey - mechanically separated meat (MSM) - at retail - Surveillance					

Comments:

¹⁾ human illness investigation

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 cows' milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	3	0		
Cheeses made from goats' milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	10	0		
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	156	0		
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	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
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Dairy products (excluding cheeses) - ice-cream - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	18	0		
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Dairy products (excluding cheeses) - milk powder and whey powder - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Cheeses made from cows' milk - curd - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Cheeses made from cows' milk - hard - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	1	0		
Cheeses made from cows' milk - hard - made from pasteurised milk - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	1	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 cows' milk - hard - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	13	0		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	6	0		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	8	0		
Cheeses made from goats' milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	4	0		
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample			25 g	1	0		
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	6	0		
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	6	0		
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	5	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 raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	8	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	14	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	7	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Dairy products (excluding cheeses) - butter - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 ml	1	0		
Dairy products (excluding cheeses) - dairy desserts - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	14	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
Dairy products (excluding cheeses) - dairy desserts - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	7	0		
Dairy products (excluding cheeses) - dairy desserts - chilled - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	1		
Dairy products (excluding cheeses) - fermented dairy products - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	4	0		
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	140	0		
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	184	0		
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	115	0		
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	254	0		
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Surveillance	SVFI, PHA	Objective sampling	Official sampling	food sample		Batch	25 g	65	0		
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Batch	25 g	30	0		
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	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
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	344	0		
Dairy products (excluding cheeses) - ice-cream - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	91	0		
Dairy products (excluding cheeses) - probiotic drinks - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Single	25 ml	2	0		
Dairy products (excluding cheeses) - sour milk - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 ml	1	0		
Dairy products (excluding cheeses) - yoghurt - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Dairy products (excluding cheeses) - yoghurt - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Dairy products (excluding cheeses) - yoghurt - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Single	25 g	3	0		
Dairy products (excluding cheeses) - yoghurt - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Dairy products, unspecified - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	1	0		
Dairy products, unspecified - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
Milk, cows' - UHT milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk		Batch	25 g	5	0		
Milk, cows' - UHT milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk		Batch	25 g	2	0		

Table Salmonella in milk and dairy products

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail - 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 cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance			
Cheeses made from goats' milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance			
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance			
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance			
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance			
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 raw or low heat-treated milk - at retail - Surveillance			

Table Salmonella in milk and dairy products

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at retail - Surveillance			
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at retail - Surveillance			
Dairy products (excluding cheeses) - ice-cream - made from raw or low heat-treated milk - at retail - Surveillance			
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance			
Dairy products (excluding cheeses) - milk powder and whey powder - at retail - Surveillance			
Cheeses made from cows' milk - curd - at retail - Surveillance			
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant - Surveillance			
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - Surveillance			
Cheeses made from cows' milk - hard - at retail - Surveillance			
Cheeses made from cows' milk - hard - made from pasteurised milk - at catering - Monitoring			

Table Salmonella in milk and dairy products

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis
Cheeses made from cows' milk - hard - made from pasteurised milk - at processing plant - Surveillance			
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - Surveillance			
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance			
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - 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 goats' milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance			
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at retail - Surveillance			
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance			
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance			
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance			

Table Salmonella in milk and dairy products

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance			
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from pasteurised milk - at processing plant - Surveillance			
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from pasteurised milk - at retail - Surveillance			
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance			
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from raw or low heat-treated milk - at retail - Surveillance			
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from raw or low heat-treated milk - at retail - Surveillance			
Dairy products (excluding cheeses) - butter - at retail - Surveillance			
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at retail - Surveillance			
Dairy products (excluding cheeses) - dairy desserts - at processing plant - Surveillance			

Table Salmonella in milk and dairy products

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis
Dairy products (excluding cheeses) - dairy desserts - at retail - Surveillance			
Dairy products (excluding cheeses) - dairy desserts - chilled - at retail - Surveillance			1
Dairy products (excluding cheeses) - fermented dairy products - at retail - Surveillance			
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance			
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance			
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Monitoring			
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Monitoring			
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Surveillance			
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - Monitoring			
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - Surveillance			

Table Salmonella in milk and dairy products

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - Surveillance			
Dairy products (excluding cheeses) - ice-cream - made from raw or low heat-treated milk - at retail - Surveillance			
Dairy products (excluding cheeses) - probiotic drinks - at retail - Monitoring			
Dairy products (excluding cheeses) - sour milk - at retail - Monitoring			
Dairy products (excluding cheeses) - yoghurt - at processing plant - Surveillance			
Dairy products (excluding cheeses) - yoghurt - at retail - Monitoring			
Dairy products (excluding cheeses) - yoghurt - at retail - Monitoring			
Dairy products (excluding cheeses) - yoghurt - at retail - Surveillance			
Dairy products, unspecified - at retail - Surveillance			
Dairy products, unspecified - at retail - Surveillance			
Milk, cows' - UHT milk - at processing plant - Surveillance			
Milk, cows' - UHT milk - at retail - Surveillance			

Table Salmonella in milk and dairy products

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	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	8	0		
Eggs - table eggs - at retail - Surveillance	SVFI, PHA	Objective sampling	Official sampling	food sample		Batch	25 g	32	0		
Fishery products, unspecified - cooked - at processing plant - Surveillance	SVFI, PHA	Objective sampling	Official sampling	food sample		Batch	25 g	11	0		
Fishery products, unspecified - cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	7	0		
Fish - smoked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Crustaceans - unspecified - cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	8	0		
Molluscan shellfish - raw - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Seeds, sprouted - non-ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Seeds, sprouted - ready-to-eat - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	3	0		
Seeds, sprouted - ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	14	0		
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	SVFI, PHA	Objective sampling	Official sampling	food sample		Batch	25 g	6	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
Foodstuffs intended for special nutritional uses - dried dietary foods for special medical purposes intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	41	0		
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	169	0		
Juice - fruit juice - unpasteurised - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	6	0		
Bakery products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	54	0		
Bakery products - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Bakery products - bread - at catering - Surveillance	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Bakery products - bread - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	5	0		
Bakery products - desserts - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Bakery products - desserts - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	104	0		
Bakery products - pastry - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Bakery products - pastry - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	18	0		
Beverages, non-alcoholic - soft drinks - at catering - Monitoring	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 ml	1	0		
Beverages, non-alcoholic - soft drinks - at catering - Surveillance	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 gml	1	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
Beverages, non-alcoholic - soft drinks - at retail - Monitoring	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 ml	3	0		
Beverages, non-alcoholic - soft drinks - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 ml	50	0		
Beverages, non-alcoholic - soft drinks - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 ml	10	0		
Cereals and meals - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	5	0		
Cereals and meals - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	20	0		
Cocoa and cocoa preparations, coffee and tea - at processing plant - Surveillance	PHA	Objective sampling	HACCP and own checks	food sample	Imported from outside EU	Single	25 g	351	3		
Cocoa and cocoa preparations, coffee and tea - at processing plant - Surveillance	PHA, SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	14	0		
Cocoa and cocoa preparations, coffee and tea - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	6	0		
Cocoa and cocoa preparations, coffee and tea - at retail - Surveillance	PHA, SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	9	0		
Cocoa and cocoa preparations, coffee and tea - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	20	0		
Coconut - coconut products - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Confectionery products and pastes - at hospital or care home - Surveillance	PHA	Suspect sampling	Official sampling	food sample		Single	25 g	2	0		
Confectionery products and pastes - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	113	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
Confectionery products and pastes - at processing plant - Surveillance	PHA	Objective sampling	Official and industry sampling	food sample		Single	25 g	5	0		
Confectionery products and pastes - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	4	0		
Confectionery products and pastes - at processing plant - Surveillance	PHA, SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	252	0		
Confectionery products and pastes - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	182	0		
Confectionery products and pastes - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	250	0		
Confectionery products and pastes - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	7	0		
Confectionery products and pastes - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	25	0		
Confectionery products and pastes - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	203	0		
Confectionery products and pastes - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	12	0		
Egg products - dried - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	4	0		
Eggs - table eggs - at catering - Monitoring	PHA	Suspect sampling	Official sampling	food sample		Single	25 g	3	0		
Eggs - table eggs - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	8	0		
Eggs - table eggs - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	1	0		
Eggs - table eggs - at catering - Surveillance	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	1	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
Eggs - table eggs - at catering - Surveillance	PHA	Suspect sampling	Official sampling	food sample	Domestic	Batch	25 g	2	0		
Eggs - table eggs - at hospital or care home - Surveillance	PHA	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Eggs - table eggs - at packing centre - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
Eggs - table eggs - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	4	3		3
Eggs - table eggs - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
Eggs - table eggs - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Eggs - table eggs - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	257	8	8	
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Fish - raw - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	6	0		
Fishery products, unspecified - cooked - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	5	0		
Fishery products, unspecified - cooked - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Fishery products, unspecified - cooked - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	64	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
Fishery products, unspecified - raw - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	25	0		
Fishery products, unspecified - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	11	0		
Fishery products, unspecified - ready-to-eat - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	20	0		
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at hospital or care home - Monitoring	PHA	Selective sampling	Official sampling	food sample		Single	25 g	109	0		
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	10	0		
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	4	0		
Foodstuffs intended for special nutritional uses - dried dietary foods for special medical purposes intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	6	0		
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Batch	25 g	10	0		
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Monitoring	PHA	Objective sampling	Official and industry sampling	food sample	Imported from outside EU	Single	25 g	15	0		
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	21	0		
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	31	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
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	89	0		
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	10	0		
Fruits - pre-cut - ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Fruits - products - fruit purée - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Fruits and vegetables - non-pre-cut - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	22	0		
Fruits and vegetables - non-pre-cut - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	19	0		
Fruits and vegetables - non-pre-cut - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	19	0		
Fruits and vegetables - products - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	8	0		
Fruits and vegetables - products - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	5	0		
Infant formula - dried - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	50	0		
Infant formula - dried - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	25	0		
Infant formula - dried - intended for infants below 6 months - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	70	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
Infant formula - dried - intended for infants below 6 months - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	105	0		
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	54	0		
Infant formula - liquid - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Infant formula - liquid - intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Infant formula - ready-to-eat - at hospital or care home - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 ml	3	0		
Juice - fruit juice - pasteurised - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
Juice - fruit juice - unpasteurised - at processing plant - Surveillance	SVFI, PHA	Objective sampling	Official sampling	food sample		Batch	25 ml	3	0		
Juice - vegetable juice - unpasteurised - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 ml	10	0		
Nuts and nut products - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	4	0		
Nuts and nut products - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	3	0		
Nuts and nut products - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	4	0		
Other processed food products and prepared dishes - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	97	0		
Other processed food products and prepared dishes - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	31	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 - ices and similar frozen desserts - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 ml	164	0		
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 ml	64	0		
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 ml	490	0		
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 ml	237	0		
Other processed food products and prepared dishes - noodles - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	11	0		
Other processed food products and prepared dishes - noodles - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	5	0		
Other processed food products and prepared dishes - noodles - at catering - Surveillance ¹⁾	PHA	Suspect sampling	Official sampling	food sample		Single	25 g	3	0		
Other processed food products and prepared dishes - noodles - at processing plant - Surveillance	PHA, SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	28	0		
Other processed food products and prepared dishes - noodles - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample > blood	Domestic	Batch	25 g	4	0		
Other processed food products and prepared dishes - noodles - at retail - Surveillance	PHA, SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	11	0		
Other processed food products and prepared dishes - noodles - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	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 - pasta - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Other processed food products and prepared dishes - pasta - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	119	0		
Other processed food products and prepared dishes - pasta/rice salad - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	68	0		
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	128	0		
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	90	0		
Other processed food products and prepared dishes - sandwiches - non-meat - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Other processed food products and prepared dishes - sandwiches - non-meat - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	5	0		
Other processed food products and prepared dishes - sandwiches - non-meat - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	7	0		
Other processed food products and prepared dishes - sandwiches - non-meat - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	20	0		
Other processed food products and prepared dishes - sandwiches - non-meat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	9	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 - sandwiches - non-meat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	13	0		
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	15	0		
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	19	0		
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	42	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	21	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	13	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	21	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance ²⁾	PHA	Suspect sampling	Official sampling	food sample	Domestic	Batch	25 g	5	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	14	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 - sandwiches - with meat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample			25 g	116	1		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single		130	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	10	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	288	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance ³⁾	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	7	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Selective sampling	Official sampling	food sample	Domestic	Single	25 g	20	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	136	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	28	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 - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Suspect sampling	Official sampling	food sample	Domestic	Batch	25 g	1	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	228	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Objective sampling	HACCP and own checks	food sample		Single	25 g	12	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	47	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	9	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Surveillance	PHA	Selective sampling	Official sampling	food sample		Single	25 g	1	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Surveillance	PHA	Suspect sampling	Official sampling	food sample		Single	25 g	5	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	981	1	1	

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 - unspecified - ready-to-eat foods - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	72	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	25	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance	PHA, SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	39	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	73	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - frozen - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	18	0	0	
Ready-to-eat salads - containing mayonnaise - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Ready-to-eat salads - containing mayonnaise - at catering - Surveillance ⁴⁾	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	25	0		
Ready-to-eat salads - containing mayonnaise - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	272	0		
Ready-to-eat salads - containing mayonnaise - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	92	0		
Ready-to-eat salads - containing mayonnaise - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	3	0		
Ready-to-eat salads - containing mayonnaise - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	78	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
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	53	0		
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	72	0		
Sauce and dressings - mayonnaise - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Sauce and dressings - mayonnaise - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Sauce and dressings - mayonnaise - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	2	0		
Seeds, dried - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	20	0		
Seeds, dried - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	15	0		
Seeds, sprouted - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
Soups - dehydrated - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Soups - dehydrated - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Soups - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	17	0		
Soups - ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	3	0		
Soups - ready-to-eat - at catering - Surveillance	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	10	0		
Soups - ready-to-eat - at catering - Surveillance ⁵⁾	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	5	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
Soups - ready-to-eat - at catering - Surveillance	PHA	Selective sampling	Official sampling	food sample	Domestic	Single	25 g	62	0		
Soups - ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	3	0		
Soups - ready-to-eat - at hospital or care home - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	3	0		
Soups - ready-to-eat - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	25	0		
Spices and herbs - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	21	0		
Spices and herbs - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	27	0		
Spices and herbs - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Imported from outside EU	Batch	25 g	3	0		
Spices and herbs - dried - at catering - Monitoring	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	2	0		
Spices and herbs - dried - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	25	0		
Spices and herbs - dried - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	8	0		
Spices and herbs - dried - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	40	0		
Spices and herbs - dried - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	7	0		
Spices and herbs - dried - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	12	0		
Vegetables - non-pre-cut - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	26	0		
Vegetables - non-pre-cut - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	17	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
Vegetables - non-pre-cut - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	1	0		
Vegetables - pre-cut - frozen vegetables - at retail - Surveillance	PHA	Objective sampling	HACCP and own checks	food sample		Single	25 g	9	0		
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	136	0		
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	10	0		
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	184	1		

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Eggs - table eggs - at packing centre - Surveillance					
Eggs - table eggs - at retail - Surveillance					
Fishery products, unspecified - cooked - at processing plant - Surveillance					
Fishery products, unspecified - cooked - at retail - Surveillance					
Fish - smoked - at retail - Surveillance					
Crustaceans - unspecified - cooked - at retail - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Molluscan shellfish - raw - at retail - Surveillance					
Seeds, sprouted - non-ready-to-eat - at retail - 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					
Foodstuffs intended for special nutritional uses - dried dietary foods for special medical purposes intended for infants below 6 months - at retail - Surveillance					
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance					
Juice - fruit juice - unpasteurised - at retail - Surveillance					
Bakery products - at processing plant - Surveillance					
Bakery products - at retail - Surveillance					
Bakery products - bread - at catering - Surveillance					
Bakery products - bread - at retail - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Bakery products - desserts - at retail - Surveillance					
Bakery products - desserts - at retail - Surveillance					
Bakery products - pastry - at processing plant - Monitoring					
Bakery products - pastry - at retail - Surveillance					
Beverages, non-alcoholic - soft drinks - at catering - Monitoring					
Beverages, non-alcoholic - soft drinks - at catering - Surveillance					
Beverages, non-alcoholic - soft drinks - at retail - Monitoring					
Beverages, non-alcoholic - soft drinks - at retail - Surveillance					
Beverages, non-alcoholic - soft drinks - at retail - Surveillance					
Cereals and meals - at processing plant - Monitoring					
Cereals and meals - at retail - Monitoring					
Cocoa and cocoa preparations, coffee and tea - at processing plant - Surveillance		1			2
Cocoa and cocoa preparations, coffee and tea - at processing plant - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Cocoa and cocoa preparations, coffee and tea - at retail - Surveillance					
Cocoa and cocoa preparations, coffee and tea - at retail - Surveillance					
Cocoa and cocoa preparations, coffee and tea - at retail - Surveillance					
Coconut - coconut products - at retail - Surveillance					
Confectionery products and pastes - at hospital or care home - Surveillance					
Confectionery products and pastes - at processing plant - Monitoring					
Confectionery products and pastes - at processing plant - Surveillance					
Confectionery products and pastes - at processing plant - Surveillance					
Confectionery products and pastes - at processing plant - Surveillance					
Confectionery products and pastes - at processing plant - Surveillance					
Confectionery products and pastes - at retail - Monitoring					
Confectionery products and pastes - at retail - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Confectionery products and pastes - at retail - Surveillance					
Confectionery products and pastes - at retail - Surveillance					
Confectionery products and pastes - at retail - Surveillance					
Egg products - dried - at processing plant - Surveillance					
Eggs - table eggs - at catering - Monitoring					
Eggs - table eggs - at catering - Monitoring					
Eggs - table eggs - at catering - Surveillance					
Eggs - table eggs - at catering - Surveillance					
Eggs - table eggs - at catering - Surveillance					
Eggs - table eggs - at hospital or care home - Surveillance					
Eggs - table eggs - at packing centre - Surveillance					
Eggs - table eggs - at processing plant - Surveillance					
Eggs - table eggs - at processing plant - Surveillance					
Eggs - table eggs - at retail - Surveillance					
Eggs - table eggs - at retail - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at processing plant - Surveillance					
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at retail - Surveillance					
Fish - raw - at retail - Surveillance					
Fishery products, unspecified - cooked - at catering - Surveillance					
Fishery products, unspecified - cooked - at retail - Surveillance					
Fishery products, unspecified - cooked - at retail - Surveillance					
Fishery products, unspecified - raw - at catering - Surveillance					
Fishery products, unspecified - ready-to-eat - at catering - Monitoring					
Fishery products, unspecified - ready-to-eat - at retail - Monitoring					
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at hospital or care home - Monitoring					
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at processing plant - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - Surveillance					
Foodstuffs intended for special nutritional uses - dried dietary foods for special medical purposes intended for infants below 6 months - at retail - Surveillance					
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Monitoring					
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Monitoring					
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Monitoring					
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Surveillance					
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Surveillance					
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Surveillance					
Fruits - pre-cut - ready-to-eat - at processing plant - Surveillance					
Fruits - pre-cut - ready-to-eat - at retail - Surveillance					
Fruits - products - fruit purée - at retail - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Fruits and vegetables - non-pre-cut - at processing plant - Surveillance					
Fruits and vegetables - non-pre-cut - at processing plant - Surveillance					
Fruits and vegetables - non-pre-cut - at retail - Surveillance					
Fruits and vegetables - products - at retail - Surveillance					
Fruits and vegetables - products - at retail - Surveillance					
Infant formula - dried - at retail - Surveillance					
Infant formula - dried - at retail - Surveillance					
Infant formula - dried - intended for infants below 6 months - at retail - Monitoring					
Infant formula - dried - intended for infants below 6 months - at retail - Monitoring					
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance					
Infant formula - liquid - at retail - Surveillance					
Infant formula - liquid - intended for infants below 6 months - at retail - Surveillance					
Infant formula - ready-to-eat - at hospital or care home - Monitoring					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Juice - fruit juice - pasteurised - at retail - Surveillance					
Juice - fruit juice - unpasteurised - at processing plant - Surveillance					
Juice - vegetable juice - unpasteurised - at processing plant - Surveillance					
Nuts and nut products - at retail - Surveillance					
Nuts and nut products - at retail - Surveillance					
Nuts and nut products - at retail - Surveillance					
Other processed food products and prepared dishes - at processing plant - Surveillance					
Other processed food products and prepared dishes - at retail - Surveillance					
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Monitoring					
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Monitoring					
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Surveillance					
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Other processed food products and prepared dishes - noodles - at catering - Monitoring					
Other processed food products and prepared dishes - noodles - at catering - Monitoring					
Other processed food products and prepared dishes - noodles - at catering - Surveillance ¹⁾					
Other processed food products and prepared dishes - noodles - at processing plant - Surveillance					
Other processed food products and prepared dishes - noodles - at retail - Surveillance					
Other processed food products and prepared dishes - noodles - at retail - Surveillance					
Other processed food products and prepared dishes - noodles - at retail - Surveillance					
Other processed food products and prepared dishes - pasta - at catering - Surveillance					
Other processed food products and prepared dishes - pasta - at retail - Surveillance					
Other processed food products and prepared dishes - pasta/rice salad - at retail - Surveillance					
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance					
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance					
Other processed food products and prepared dishes - sandwiches - non-meat - at processing plant - Monitoring					
Other processed food products and prepared dishes - sandwiches - non-meat - at processing plant - Monitoring					
Other processed food products and prepared dishes - sandwiches - non-meat - at processing plant - Surveillance					
Other processed food products and prepared dishes - sandwiches - non-meat - at processing plant - Surveillance					
Other processed food products and prepared dishes - sandwiches - non-meat - at retail - Surveillance					
Other processed food products and prepared dishes - sandwiches - non-meat - at retail - Surveillance					
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring					
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Surveillance					
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Monitoring					
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance					
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance					
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance ²⁾					
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance					
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance			1		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance ³⁾					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Monitoring					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Monitoring					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - frozen - at processing plant - Monitoring					
Ready-to-eat salads - containing mayonnaise - at catering - Monitoring					
Ready-to-eat salads - containing mayonnaise - at catering - Surveillance ⁴⁾					
Ready-to-eat salads - containing mayonnaise - at processing plant - Surveillance					
Ready-to-eat salads - containing mayonnaise - at processing plant - Surveillance					
Ready-to-eat salads - containing mayonnaise - at retail - Monitoring					
Ready-to-eat salads - containing mayonnaise - at retail - Monitoring					
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance					
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance					
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance					
Sauce and dressings - mayonnaise - at catering - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Sauce and dressings - mayonnaise - at processing plant - Surveillance					
Sauce and dressings - mayonnaise - at retail - Surveillance					
Seeds, dried - at processing plant - Surveillance					
Seeds, dried - at processing plant - Surveillance					
Seeds, sprouted - ready-to-eat - at retail - Surveillance					
Soups - dehydrated - at processing plant - Surveillance					
Soups - dehydrated - at retail - Surveillance					
Soups - ready-to-eat - at catering - Monitoring					
Soups - ready-to-eat - at catering - Surveillance					
Soups - ready-to-eat - at catering - Surveillance					
Soups - ready-to-eat - at catering - Surveillance ⁵⁾					
Soups - ready-to-eat - at catering - Surveillance					
Soups - ready-to-eat - at catering - Surveillance					
Soups - ready-to-eat - at hospital or care home - Monitoring					
Soups - ready-to-eat - at processing plant - Surveillance					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Spices and herbs - at processing plant - Surveillance					
Spices and herbs - at retail - Surveillance					
Spices and herbs - at retail - Surveillance					
Spices and herbs - dried - at catering - Monitoring					
Spices and herbs - dried - at processing plant - Surveillance					
Spices and herbs - dried - at retail - Monitoring					
Spices and herbs - dried - at retail - Monitoring					
Spices and herbs - dried - at retail - Surveillance					
Spices and herbs - dried - at retail - Surveillance					
Vegetables - non-pre-cut - at processing plant - Surveillance					
Vegetables - non-pre-cut - at retail - Surveillance					
Vegetables - non-pre-cut - at retail - Surveillance					
Vegetables - pre-cut - frozen vegetables - at retail - Surveillance					
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring					
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring					

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Napoli	S. Plymouth
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance				1	

Comments:

- ¹⁾ human illness investigation
- ²⁾ human illness investigation
- ³⁾ human illness investigation
- ⁴⁾ human illness investigation
- ⁵⁾ human illness investigation

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 - fresh - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample > meat		Batch	25 g	2	0		
Meat from pig - fresh - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	1	0		
Meat from pig - minced meat - intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	90	2	1	
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	91	1		
Meat from pig - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	13	0		
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	79	0		
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	47	0		
Meat from bovine animals - carcase - at slaughterhouse - Surveillance	SVFI	Objective sampling	Official sampling	food sample > carcase swabs		Batch	25 g	4	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	7	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 products - cooked, ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	14	0		
Other products of animal origin - gelatin and collagen - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	4	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	18	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at hospital or care home - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	1	0		
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	1	0		
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	9	1		
Meat from pig - fresh - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample > meat		Single	25 g	1	0		
Meat from pig - fresh - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample > meat		Single	25 g	1	0		
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	58	0		
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Surveillance ¹⁾	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	5	1	1	

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 - meat preparation - intended to be eaten cooked - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	1	0		
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	1	0		
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	2	0		
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Single	25 g	10	0		
Meat from pig - meat preparation - intended to be eaten cooked - frozen - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Meat from pig - meat preparation - intended to be eaten cooked - frozen - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	5	0		
Meat from pig - meat products - cooked ham - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	7	0		
Meat from pig - meat products - cooked ham - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	11	0		
Meat from pig - meat products - cooked ham - non-sliced - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	65	1		
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	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 - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Meat, mixed meat - meat products - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Meat, mixed meat - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat, mixed meat - meat products - fermented sausages - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	18	0		
Meat, mixed meat - meat products - fermented sausages - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat, mixed meat - meat products - fermented sausages - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	51	0		
	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Rissen							
Meat from pig - fresh - at processing plant - Surveillance											
Meat from pig - fresh - at retail - Surveillance											
Meat from pig - minced meat - intended to be eaten cooked - at retail - Surveillance											

Table Salmonella in red meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Rissen
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance				1
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance	1			
Meat from pig - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance				
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 processing plant - Surveillance				
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance				
Meat from bovine animals - carcase - at slaughterhouse - Surveillance				
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - Surveillance				
Meat from bovine animals - meat products - cooked, ready-to-eat - at retail - Surveillance				
Other products of animal origin - gelatin and collagen - at retail - Surveillance				
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Monitoring				

Table Salmonella in red meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Rissen
Meat from bovine animals - meat preparation - intended to be eaten cooked - at hospital or care home - Monitoring				
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - Surveillance				
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at processing plant - Surveillance				
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at retail - Surveillance			1	
Meat from pig - fresh - at processing plant - Surveillance				
Meat from pig - fresh - at retail - Surveillance				
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Monitoring				
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Surveillance ¹⁾				
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance				
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance				
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance				

Table Salmonella in red meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Rissen
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance				
Meat from pig - meat preparation - intended to be eaten cooked - frozen - at processing plant - Surveillance				
Meat from pig - meat preparation - intended to be eaten cooked - frozen - at retail - Surveillance				
Meat from pig - meat products - cooked ham - at processing plant - Surveillance				
Meat from pig - meat products - cooked ham - at retail - Surveillance				
Meat from pig - meat products - cooked ham - non-sliced - at catering - Monitoring				
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance				
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance			1	
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Surveillance				
Meat, mixed meat - meat products - at processing plant - Surveillance				
Meat, mixed meat - meat products - at retail - Surveillance				
Meat, mixed meat - meat products - cooked, ready-to-eat - at processing plant - Surveillance				

Table Salmonella in red meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Rissen
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - Surveillance				
Meat, mixed meat - meat products - fermented sausages - at processing plant - Surveillance				
Meat, mixed meat - meat products - fermented sausages - at retail - Surveillance				
Meat, mixed meat - meat products - fermented sausages - at retail - Surveillance				

Comments:

¹⁾ human illness investigation

2.1.3 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 target for the reduction of Salmonella Enteritidis, Salmonella Hadar, Salmonella Infantis, Salmonella Typhimurium (including monophasic strains 1,4,[5],12:i:-) and Salmonella Virchow in breeding flocks of Gallus gallus shall be a reduction of the maximum percentage of adult breeding flocks comprising at least 250 birds remaining positive to 1% or less by 31. December 2012.

Official checks at the level of poultry flocks are organized and carried out by the relevant District Veterinary and Food Administration, 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 District Veterinary and Food Administrations.

The control programme is yearly evaluated.

The owner or the person responsible for hatcheries or for breeding flocks must, at his own expense, perform the sampling for analysis for the detection of salmonella either in an approved national laboratory or in a laboratory recognized by the competent authority. Samples taken by operator are part of official controls.

Monitoring for salmonella is composing the target in adult breeding flocks of Gallus gallus comprising at least 250 birds.

In the SR breeding flocks of Gallus Gallus are sampled according to the following scheme:

- rearing flocks — day-old chicks
 - four-week-old birds
 - two weeks before moving to laying phase or laying unit
- adult breeding flocks — every second week during the laying period

Breeding flocks shall be sampled:

A. at the initiative of the operator - sampling at the initiative of the operator shall take at the hatchery every 2 weeks

B. official sampling:

Official control sampling is taken:

a) Routine sampling every 16 weeks at hatchery, which shall on that occasion replace the corresponding sampling at the initiative of the operator;

b) routine sampling at the holding on two occasions during the production cycle, the first one being within four weeks following moving to laying phase or laying unit and the second one being towards the end of the laying phase, not earlier than eight weeks before the end of the production cycle.

c) Confirmatory sampling at the holding, following detection of relevant salmonella from sampling at hatchery.

d) In case of suspicion of false negative or false positive results District Veterinary and Food Administration can decide to take confirmatory samples at farm.

Sampling at the initiative of the operator shall take at the hatchery every 2 weeks.

Official control sampling at flock level is taken:

I. If sampling at the initiative of the food business operator takes place at the hatchery:

a) routine sampling every 16 weeks at hatchery, which shall on that occasion replace the corresponding

sampling at the initiative of the operator;

b) routine sampling at the holding on two occasions during the production cycle, the first one being within four weeks following moving to laying phase or laying unit and the second one being towards the end of the laying phase, not earlier than eight weeks before the end of the production cycle;

c) confirmatory sampling at the holding, following detection of relevant salmonella from sampling at hatchery.

II. If sampling at the initiative of the food business operator takes place at the holding, routine sampling shall be carried out on three occasions during the production cycle:

(a) within four weeks following moving to laying phase or laying unit;

(b) towards the end of the laying phase, not earlier than eight weeks before the end of the production cycle;

(c) at any time during the production cycle which is sufficiently distant in time from the sampling referred to in points (a) and (b).

Frequency of the sampling

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

Every 2 weeks at hatchery.

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

2 weeks prior to moving to laying phase,

4 week old birds

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

Every 2 weeks during the laying period.

Type of specimen taken

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

hatcher basket liners, or

fabric swabs, or

broken eggshells

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

Faeces

Boot swabs and/or dust

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

Faeces

Boot swabs and/or dust

Methods of sampling (description of sampling techniques)

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

a) one composite sample of visibly soiled hatcher basket liners taken at random from five separate hatcher baskets or locations in the hatcher, to reach a total sampling surface of at least 1 m²; however, if the hatching eggs from a breeding flock occupy more than one hatcher, then such a composite sample shall be taken from all up to five hatchers; or

b) one sample taken with one or several moistened fabric swab(s) of at least 900 cm² surface area in total, taken immediately after the removal of the chickens from the whole surface area of the bottom of at least

a total of five hatcher baskets, or from fluff from five places, including on the floor, in all up to five hatchers with hatched eggs from the flock, ensuring that at least one sample per flock from which eggs are derived, is taken; or

c) 10 g broken eggshells taken from a total of 25 separate hatcher baskets (i.e. 250 g initial sample) in up to five hatchers with hatched eggs from the flock, crushed, mixed and subsampled to form a 25 g subsample for testing.

Breeding flocks: Production period

Sampling shall primarily consist of faecal samples and shall aim to detect a 1 % within flock prevalence, with a 95 % confidence limit. To that effect, the samples shall comprise one of the following:

A) Pooled faeces made up of separate samples of fresh faeces each weighing not less than 1 g taken at random from a number of sites in the house in which the flock is kept, or where the flock has free access to more than one house on a particular holding, from each group of houses on the holding in which the flock is kept. Faeces may be pooled for analysis up to a minimum of two pools.

B) Boot swabs and/or dust samples:

Boot swabs used shall be sufficiently absorptive to soak up moisture. Tubegauze 'socks' shall also be acceptable for that purpose. The surface of the boot swab shall be moistened using appropriate diluents (such as 0,8 % sodium chloride, 0,1 % peptone in sterile deionised water, sterile water or any other diluent approved by the competent authority). The samples shall be taken while walking through the house using a route that will produce representative samples for all parts of the house or the respective sector. This shall include littered and slatted areas provided that slats are safe to walk on. All separate pens within a house shall be included in the sampling. On completion of sampling in the chosen sector, boot swabs must be removed carefully so as not to dislodge adherent material. The samples shall consist of:

- five pairs of boot swabs, representing each about 20 % of the area of the house; the swabs may be pooled for analysis into a minimum of two pools; or
- at least one pair of boot swabs representing the whole area of the house and an additional dust sample collected from multiple places throughout the house from surfaces with visible presence of dust. One or several moistened fabric swab(s) of at least 900 cm² surface area in total shall be used to collect this dust sample.

C) In cage breeding flocks, sampling may consist of naturally mixed faeces from dropping belts, scrapers or deep pits, depending on the type of house. Two samples of at least 150 g shall be collected to be tested individually:

- droppings belts beneath each tier of cages which are run regularly and discharged into an auger or conveyor system;
- droppings pit system in which deflectors beneath the cages are scraped into a deep pit beneath the house;
- droppings pit system in a step cage house when cages are offset and faeces fall directly into the pit.

There are normally several stacks of cages within a house. Pooled faeces from each stack shall be represented in the overall pooled sample. Two pooled samples shall be taken from each flock as described in the following third to sixth subparagraphs:

In systems where there are belts or scrapers, these shall be run on the day of the sampling before sampling is carried out.

In systems where there are deflectors beneath cages and scrapers, pooled faeces that have lodged on the scraper after it has been run, shall be collected.

In step-cage systems where there is no belt or scraper system it is necessary to collect pooled faeces from throughout the deep pit.

Droppings belt systems: pooled faecal material from the discharge ends of the belts shall be collected. That procedure shall be followed for sampling at the initiative of the operator as well as for official sampling.

Case definition

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

Positive breeding flock is when presence of relevant salmonella (other than vaccine strains) was detected in one or more faecal and dust samples (or if there is a secondary official confirmation in the relevant faecal samples or birds organ samples) taken at the holding. Invasive salmonella serovars included in the programme are *Salmonella enteritidis*, *Salmonella typhimurium*, *Salmonella infantis*, *Salmonella virchow*, *Salmonella hadar*.

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

Positive breeding flock is when presence of relevant salmonella (other than vaccine strains) was detected in one or more faecal and dust samples (or if there is a secondary official confirmation in the relevant faecal samples or birds organ samples) taken at the holding. Invasive salmonella serovars included in the programme are *Salmonella enteritidis*, *Salmonella typhimurium*, *Salmonella infantis*, *Salmonella virchow*, *Salmonella hadar*.

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

Positive breeding flock is when presence of relevant salmonella (other than vaccine strains) was detected in one or more faecal and dust samples (or if there is a secondary official confirmation in the relevant faecal samples or birds organ samples) taken at the holding. Invasive salmonella serovars included in the programme are *Salmonella enteritidis*, *Salmonella typhimurium*, *Salmonella infantis*, *Salmonella virchow*, *Salmonella hadar*.

Diagnostic/analytical methods used

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

Bacteriological method: STN EN ISO 6579/A1:2008

1) Detection method

The method recommended by the Community Reference Laboratory (CRL) for *Salmonella* in Bilthoven, the Netherlands, for detection shall be used. This method is described in the current version of draft Annex D of ISO 6579 (2002): 'Detection of *Salmonella* spp. in animal faeces and in samples of the primary production stage'. In this method, a semi-solid medium (modified semi-solid Rappaport-Vassiladis medium, MSRV) is used as the single selective enrichment medium.

2) Serotyping

At least one isolate from each positive sample shall be serotyped, following the Kaufmann-White scheme.

3) Alternative methods

With regard to samples taken at the initiative of the operator, the methods of analysis provided for in Article 11 of Regulation (EC) No 882/2004 (1), may be used instead of the methods for the preparation of samples, detection methods and serotyping provided in this ANNEX (Examination of the samples), if validated in accordance with EN/ISO 16140/2003.

4) Storage of strains

At least the strains isolated from samples collected by the competent authority, shall be stored for future phagotyping or anti-microbial susceptibility testing, using the normal methods for culture collection, which must ensure integrity of the strains for a minimum of two years.

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

Bacteriological method: STN EN ISO 6579/A1:2008

1) Detection method

The method recommended by the Community Reference Laboratory (CRL) for Salmonella in Bilthoven, the Netherlands, for detection shall be used. This method is described in the current version of draft Annex D of ISO 6579 (2002): 'Detection of Salmonella spp. in animal faeces and in samples of the primary production stage'. In this method, a semi-solid medium (modified semi-solid Rappaport-Vassiladis medium, MSRV) is used as the single selective enrichment medium.

2) Serotyping

At least one isolate from each positive sample shall be serotyped, following the Kaufmann-White scheme.

3) Alternative methods

With regard to samples taken at the initiative of the operator, the methods of analysis provided for in Article 11 of Regulation (EC) No 882/2004 (1), may be used instead of the methods for the preparation of samples, detection methods and serotyping provided in this ANNEX (Examination of the samples), if validated in accordance with EN/ISO 16140/2003.

4) Storage of strains

At least the strains isolated from samples collected by the competent authority, shall be stored for future phagotyping or anti-microbial susceptibility testing, using the normal methods for culture collection, which must ensure integrity of the strains for a minimum of two years.

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

Bacteriological method: STN EN ISO 6579/A1:2008

1) Detection method

The method recommended by the Community Reference Laboratory (CRL) for Salmonella in Bilthoven, the Netherlands, for detection shall be used. This method is described in the current version of draft Annex D of ISO 6579 (2002): 'Detection of Salmonella spp. in animal faeces and in samples of the primary production stage'. In this method, a semi-solid medium (modified semi-solid Rappaport-Vassiladis medium, MSRV) is used as the single selective enrichment medium.

2) Serotyping

At least one isolate from each positive sample shall be serotyped, following the Kaufmann-White scheme.

3) Alternative methods

With regard to samples taken at the initiative of the operator, the methods of analysis provided for in Article 11 of Regulation (EC) No 882/2004 (1), may be used instead of the methods for the preparation of samples, detection methods and serotyping provided in this ANNEX (Examination of the samples), if validated in accordance with EN/ISO 16140/2003.

4) Storage of strains

At least the strains isolated from samples collected by the competent authority, shall be stored for future phagotyping or anti-microbial susceptibility testing, using the normal methods for culture collection, which must ensure integrity of the strains for a minimum of two years.

Vaccination policy

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

Use of vaccines and antimicrobials in the framework of these programmes must be realized according to Commission Regulation (EC) No. 1177/2006 of 1. August 2006 implementing Regulation (EC) No. 2160/2003 as regards requirements for the use of specific control methods in the framework of the national programmes for the control of salmonella in poultry. Vaccination is allowed in breeding flocks of Gallus gallus in the Slovak Republic by using inactivated or live marked vaccines registered by the Institute for the State Control of Veterinary Biologicals and Medicaments in Nitra. Live salmonella vaccines for which the manufacturer does not provide an appropriate method to distinguish bacteriological wild – type strains of salmonella from vaccine strains shall not be used. Application of live attenuated vaccines to laying hens during the laying phase is prohibited. Vaccination in breeding flocks of Gallus gallus is voluntary in the Slovak Republic.

Other preventive measures than vaccination in place

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

Movement of poultry and hatching eggs shall be carried out only in compliance with the classification of holdings which is performed for purposes of the prevention and control of infectious diseases and according to the health situation in the holding in relation to this disease. Movement is subject to the veterinary control and is carried out in compliance with the Decree of the Slovak Government No 297/2003 Coll.

Control program/mechanisms

The control program/strategies in place

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

The legal basis of the control programme is:

Act No. 39/2007 Coll. on veterinary care and amendment of some acts,

Regulation No 2160/2003/EC 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.

Decree of the Slovak Government No 626/2004 Coll., on the monitoring of zoonoses and zoonotic agents, Commission Regulation (EU) No 200/2010 of 10 March 2010 implementing 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 Salmonella serotypes in adult breeding flocks of Gallus gallus

Commission Regulation No. 1003/2005 implementing Regulation 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 No 2160/2003

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

The veterinary authorities are the respective authorities responsible for the control and coordination of fulfilment of the programme.

Recent actions taken to control the zoonoses

- National control programme for Salmonella infections in poultry Gallus Gallus breeding flocks in Slovak Republic in 2012
- Control of movement of poultry and hatching eggs
- Vaccination
- Measures in case of positive finding : movement prohibition, birds, non-incubated eggs produced by the birds in the house, eggs for hatching , all poultry in the positive flock, including one – day chicks, must be

slaughtered or destroyed so as to reduce as much as possible the risk of spreading salmonella, antibiotics may be used in accordance with legislation

Measures in case of the positive findings or single cases

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

The measures must comply with the following minimum requirements:

- a. no bird may leave the house concerned unless the competent authority has authorized the slaughter and safe destruction under supervision or slaughter in a slaughterhouse designated by the competent authority.
- b. non-incubated eggs produced by the birds in the house in question must be safely destroyed on the spot or after appropriate marking be taken under supervision to an approved egg-processing establishment to be heat treated in accordance with the requirements of the special rule.
- c. all poultry in the positive flock, including one – day chicks, 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 the legislation on food hygiene. By – products not intended for human consumption must be disposed of in accordance with Regulation (EC) No. 1774/2002 of the European Parliament and of the Council of 3. October 2002 laying down health rules concerning animal by – products not intended for human consumption.
- d. where eggs for hatching are still present in a hatchery, they must be safely destroyed or treated as high risk material in accordance with Regulation (EC) No. 1774/2002 of the European Parliament and of the Council.
- e. a thorough cleansing and disinfection must be carried out after slaughtering or destruction from infected flocks, including safe disposal of manure or litter, in accordance with procedure laid down by the competent veterinary administration authority.
- f. Antibiotics may be used in accordance with 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

Notification system in place

Holder of animals, operator of the hatchery is obliged to notify to veterinary authority each suspicion or laboratory confirmation of the presence of invasive salmonella in flock, holding, hatchery without any delay, according to § 37 of the Act No. 39/2007 Coll. on veterinary care.

In case of breaking the law an owner, holder committed an offence according to § 48 of the Act No. 39/2007 Coll. on veterinary care and administrative infringement according to the § 50.

The state veterinary laboratories in the Slovak Republic notify the results of all examinations in breeding flocks and in hatcheries to the competent District Veterinary and Food Administrations and private veterinarians. The District Veterinary and Food Administrations notify results in the annual report to the State Veterinary and Food Administration of the Slovak Republic (they send the notification for information to the Regional Veterinary and Food Administration).

Where as a result of monitoring carried out the presence of *Salmonella enteritidis*, *Salmonella typhimurium*, *Salmonella hadar*, *Salmonella infantis* and *Salmonella virchow* is detected in a breeding flock, the person responsible for the laboratory carrying out the examination, the person carrying out the examination or the owner of the flock notify the results to the competent District Veterinary and Food Administration.

Results of the investigation

See relevant table.

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

B. Salmonella spp. in Gallus Gallus - broiler flocks

Monitoring system

Sampling strategy

Broiler flocks

The target for the reduction of Salmonella Enteritidis and Salmonella Typhimurium (including monophasic strains 1,4,[5],12:i:-) in broilers shall be a reduction of the maximum percentage of flocks of broilers remaining positive of Salmonella Enteritidis and Salmonella Typhimurium (including monophasic strains 1,4,[5],12:i:-) to 1 % or less by 31 December 2012.

The control programme is yearly evaluated.

Official sampling at the level of poultry flocks are organized and carried out by the relevant district veterinary and food administration, which also take measures in the case of positive results.

Sampling on the initiative of the food business operator is carried out by private veterinarians.

Flocks of broilers shall be sampled:

A. sampling on the initiative of the food business operator - sampling on the initiative of the food business operator shall take place within three weeks before the birds are moved to the slaughterhouse.

B. sampling by the competent authority (official sampling)

i. Sampling by the competent authority shall include each year at least one flock of broilers on 10 % of the holdings with more than 5 000 birds. It shall be done on a risk basis each time the competent authority considers it necessary, according following rules:

- district veterinary and food administrations with 10 or less broiler holdings in competence must perform official sampling in at least one holding and all flocks within holding must be sampled,
- district veterinary and food administrations with 11 or more broiler holdings in competence must perform official sampling at least in 2 holdings and all flocks within holding must be sampled.

District veterinary and food administration must in risk assessment take into account incidence of salmonella in relevant holding in previous turns and incidence of salmonella in broiler from relevant holding at slaughterhouse.

ii. The competent authority may decide to sample at least one flock of broilers per round on holdings with several flocks if:

- an all in/all out system is used;
- the same management applies to all flocks;
- feed and water supply is common to all flocks;
- during one year and at least six rounds, Salmonella spp were tested according to the monitoring scheme set out in point (b) in all flocks on the holding and samples of all flocks of at least one round were taken by the competent authority; and
- all results from the testing for Salmonella enteritidis or Salmonella typhimurium were negative.

iii. One sampling carried out by the competent authority may replace the sampling on the initiative of the food business operator.

Frequency of the sampling

Broiler flocks: Rearing period

3 weeks prior to slaughter

Type of specimen taken

Broiler flocks: Rearing period

Socks/ boot swabs

Methods of sampling (description of sampling techniques)

Broiler flocks: Rearing period

The sampling frame shall cover all flocks of broilers in the Slovak Republic.

SAMPLING PROTOCOL

- At least two pairs of boot/sock swabs shall be taken.
 - For free range flocks of broilers, 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 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, or if not feasible, by other sampling techniques for faeces fit for the intended purpose.
 - Before putting on the boot/sock swabs, their surface shall be moistened with maximum recovery diluents (MRD: 0,8 % sodium chloride, 0,1 % peptone in sterile deionised water), or sterile water or any other diluents approved by the national reference laboratory referred to in point 5 of this programme. The use of farm water containing antimicrobials or additional disinfectants shall be prohibited. The recommended way to moisten boot swabs shall be to pour the liquid inside before putting them on.
 - Alternatively, boot swabs or socks may be autoclaved with diluents within autoclave bags or jars before use. Diluents may also be applied after boots are put on using a spray or wash bottle.
- It shall be ensured that all sections in a house are represented in the sampling in a proportionate way. 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.
 - Competent authority may decide to use one pair of boot swabs to cover 100% of area of the house if it is combined with dust sample collected from several surfaces.

Case definition

Broiler flocks: Day-old chicks

A flock of broilers shall be 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 of broilers shall be counted only once per round, irrespective of the number of sampling and testing operations and only be reported in the year of the first positive sampling.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are detected, it shall be considered as an infected flock of broilers for the purpose of the Community target.

Broiler flocks: Rearing period

A flock of broilers shall be 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 of broilers shall be counted only once per round, irrespective of the number of sampling and testing operations and only be reported in the year of the first positive sampling.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are detected, it shall be considered as an infected flock of broilers for the purpose of the Community target.

Broiler flocks: Before slaughter at farm

A flock of broilers shall be 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 of broilers shall be counted only once per round, irrespective of the number of sampling and testing operations and only be reported in the year of the first positive sampling.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are detected, it shall be considered as an infected flock of broilers for the purpose of the Community target.

Broiler flocks: At slaughter (flock based approach)

A flock of broilers shall be 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 of broilers shall be counted only once per round, irrespective of the number of sampling and testing operations and only be reported in the year of the first positive sampling.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are detected, it shall be considered as an infected flock of broilers for the purpose of the Community target.

Diagnostic/analytical methods used

Broiler flocks: Day-old chicks

Bacteriological method: STN EN ISO 6579/A1:2008

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Broiler flocks: Rearing period

Bacteriological method: STN EN ISO 6579/A1:2008

Broiler flocks: Before slaughter at farm

Bacteriological method: STN EN ISO 6579/A1:2008

Broiler flocks: At slaughter (flock based approach)

Bacteriological method: STN EN ISO 6579/A1:2008

Other preventive measures than vaccination in place

Broiler flocks

Movement of poultry shall be carried out only in compliance with the classification of holdings which is performed for purposes of the prevention and control of infectious diseases and according to the health situation in the holding in relation to this disease. Movement is subject to the veterinary control and is carried out in compliance with the Ordinance No 297/2003 Coll.

Control program/mechanisms

The control program/strategies in place

Broiler flocks

Act No. 39/2007 Coll. on veterinary care

Regulation of the European Parliament and of the Council No 2160/2003/EC 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

Ordinance of the Government of the Slovak Republic No 626/2004 Coll., on the monitoring of zoonoses and 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 199/2009 of 13 March 2009 laying down a transitional measure derogating from Regulation (EC) No 2160/2003 of the European Parliament and of the Council, as regards direct supply of small quantities of fresh meat derived from flocks of broilers and turkeys

Measures in case of the positive findings or single cases

Broiler flocks: Rearing period

When invasive serovars are confirmed in broiler flock the relevant district veterinary and food administration starts to carry out the epizootological investigation in order to detect the source of contamination.

The measures must comply with the following minimum requirements:

1. After slaughtering of infected flocks safe disposal of manure or litter must be carried out in accordance with procedure laid down by the competent veterinary administration authority.
2. A thorough cleansing and disinfection must be carried out of the building.
3. After cleaning and disinfection must be performed the effectiveness check by taking of swabs from the superficies of the house, which are designated for bacteriological investigation to the NRL. Houses can be restocked only when results of bacteriological investigation of control swabs are negative for invasive salmonella.

Broiler flocks: Before slaughter at farm

When invasive serovars are confirmed in broiler flock the relevant district veterinary and food administration starts to carry out the epizootological investigation in order to detect the source of contamination.

The measures must comply with the following minimum requirements:

1. After slaughtering of infected flocks safe disposal of manure or litter must be carried out in accordance with procedure laid down by the competent veterinary administration authority.
2. A thorough cleansing and disinfection must be carried out of the building.
3. After cleaning and disinfection must be performed the effectiveness check by taking of swabs from the superficies of the house, which are designated for bacteriological investigation to the NRL. Houses can be restocked only when results of bacteriological investigation of control swabs are negative for invasive salmonella.

Broiler flocks: At slaughter (flock based approach)

When invasive serovars are confirmed in broiler flock the relevant district veterinary and food administration starts to carry out the epizootological investigation in order to detect the source of contamination.

The measures must comply with the following minimum requirements:

1. After slaughtering of infected flocks safe disposal of manure or litter must be carried out in accordance with procedure laid down by the competent veterinary administration authority.
2. A thorough cleansing and disinfection must be carried out of the building.
3. After cleaning and disinfection must be performed the effectiveness check by taking of swabs from the

superficies of the house, which are designated for bacteriological investigation to the NRL. Houses can be restocked only when results of bacteriological investigation of control swabs are negative for invasive salmonella.

Notification system in place

Owner or holder of broilers is obliged to notify the suspicion and outbreak of Salmonella infection without any delay, according to § 37 of the Act No. 39/2007 Coll. In case of breaking the law an owner or holder committed an offence according to § 48 of the Act No. 39/2007 Coll. and administrative infringement according to the § 50.

The state veterinary laboratories in the Slovak Republic notify the results of all examinations of broiler flocks to the relevant district veterinary and food administrations, owners and private veterinarians.

Where as a result of monitoring carried out the presence of Salmonella enteritidis, Salmonella typhimurium is detected in a broiler flock, the person responsible for the laboratory carrying out the examination, the person carrying out the examination or the owner of the flock notify the results to the relevant district veterinary and food administration.

The District Veterinary and Food Administrations notify results in the annual report to the State Veterinary and Food Administration of the Slovak Republic (they send the notification for information to the Regional Veterinary and Food Administration).

Results of the investigation

See relevant table.

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

Monitoring system

Sampling strategy

Laying hens flocks

The target for the reduction of *Salmonella enteritidis* and *Salmonella typhimurium* (including monophasic strains 1,4,[5],12:i:-) in adult laying hens of *Gallus Gallus* shall be an annual minimum percentage of reduction of positive flocks of adult laying hens equal to at least 20 % if the prevalence in the preceding years was between 10 and 19%.

The control programme is yearly evaluated.

This program shall apply from 1 January 2012 to 31 December 2012.

The sampling frame shall cover all flocks of adult laying hens of *Gallus gallus* (laying flocks).

– rearing flocks

oday-old chicks

opullets two weeks before moving to laying phase or laying unit

– laying flocks — every 15 weeks during the laying phase

Adult laying flocks shall be sampled:

I. by the operator

Sampling by the operator shall take place at least every fifteen weeks. The first sampling shall take place at the age of 24 ± 2 weeks.

II. by the competent authority (official sampling)

Sampling by the competent authority shall take place at least:

a.in one flock per year per holding comprising at least 1 000 birds;

b.at the age of 24 ± 2 weeks in laying flocks housed in buildings where salmonella was detected in the preceding flock;

c.in any case of suspicion of *Salmonella enteritidis* or *Salmonella typhimurium* infection, as a result of the epidemiological investigation of food-borne outbreaks in accordance with Ordinance No. 626/2004 Coll. transposing Directive of the European Parliament and of the Council No. 2003/99/EC

d.in all other laying flocks on the holding in case *Salmonella enteritidis* or *Salmonella typhimurium* are detected in one laying flock on the holding;

e.official confirmatory sample of production flocks of laying hens for confirmation of positive result of samples taken by the operator or positive official sample.

f.in cases where the competent authority considers it appropriate.

A sampling carried out by the competent authority may replace one operator sampling.

Official checks at the level of poultry flocks are organized and carried out by the relevant District Veterinary and Food Administration, which also take measures in the case of positive results. Sampling in poultry flocks is carried out by private veterinarians. Official confirmation samples are taken and sent for laboratory examination by official veterinarians from the relevant District Veterinary and Food Administrations.

The sampling frame has covered all flocks of adult laying hens of *Gallus gallus* (laying flocks). The geographical area in which the programme has been performed depends on density of holdings of laying hens.

Frequency of the sampling

Laying hens: Rearing period

Pullets two weeks before moving to laying phase

Laying hens: Production period

Every 15 weeks by the operator The first sampling shall take place at the age of 24 ± 2 weeks.

Sampling by the competent authority shall take place at least:

- a.in one flock per year per holding comprising at least 1 000 birds;
- b.at the age of 24 ± 2 weeks in laying flocks housed in buildings where salmonella was detected in the preceding flock;
- c.in any case of suspicion of *Salmonella enteritidis* or *Salmonella typhimurium* infection, as a result of the epidemiological investigation of food-borne

Type of specimen taken

Laying hens: Day-old chicks

Internal linings of delivery boxes

Laying hens: Rearing period

Faeces

Laying hens: Production period

Dust, faeces

Methods of sampling (description of sampling techniques)

Laying hens: Production period

In order to maximise sensitivity of sampling, both faecal material and the environment shall be sampled at least:

- a.In cage flocks, 2×150 grams of naturally pooled faeces shall be taken from all belts or scrapers in the house after running the manure removal system; however, in the case of step cage houses without scrapers or belts 2×150 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 be taken, without changing overboots between boot swabs.

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

In the case of sampling in flocks of laying hens with positive finding in previous flock, in case of suspicion or in case of *Salmonella enteritidis* or *S. typhimurium* detection, the competent authority shall satisfy itself by conduction further tests as appropriate that the results of examinations for salmonella in birds are not affected by the use of antimicrobials in the flocks.

Case definition

Laying hens: Day-old chicks

Positive laying flocks or infected flocks - a laying flock shall be considered positive for the purpose of verifying the achievement of the Community target, where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* (other than vaccine strains) was detected in one or more samples in the laying flock. Positive laying flocks shall be counted only once, irrespective of the number of sampling and testing operations and only be reported in the first year of detection. Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are it shall be accounted for as an infected laying flock for the purpose of the Community target.

Laying hens: Rearing period

Positive laying flocks or infected flocks - a laying flock shall be considered positive for the purpose of verifying the achievement of the Community target, where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* (other than vaccine strains) was detected in one or more samples in the laying flock. Positive laying flocks shall be counted only once, irrespective of the number of sampling and testing operations and only be reported in the first year of detection. Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are it shall be accounted for as an infected laying flock for the purpose of the Community target.

Laying hens: Production period

Positive laying flocks or infected flocks - a laying flock shall be considered positive for the purpose of verifying the achievement of the Community target, where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* (other than vaccine strains) was detected in one or more samples in the laying flock. Positive laying flocks shall be counted only once, irrespective of the number of sampling and testing operations and only be reported in the first year of detection. Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are it shall be accounted for as an infected laying flock for the purpose of the Community target.

Diagnostic/analytical methods used

Laying hens: Day-old chicks

Bacteriological method: STN EN ISO 6579/A1:2008

Laying hens: Rearing period

Bacteriological method: STN EN ISO 6579/A1:2008

Laying hens: Production period

Bacteriological method: STN EN ISO 6579/A1:2008

Laying hens: Before slaughter at farm

Bacteriological method: STN EN ISO 6579/A1:2008

Laying hens: At slaughter

Bacteriological method: STN EN ISO 6579/A1:2008

Eggs at packing centre (flock based approach)

Bacteriological method: STN EN ISO 6579/A1:2008

Vaccination policy

Laying hens flocks

Use of vaccines and antimicrobials in the framework of this programme must be realized according to Commission Regulation (EC) No. 1177/2006 of 1. August 2006 implementing Regulation (EC) No. 2160/2003 as regards requirements for the use of specific control methods in the framework of the national programmes for the control of salmonella in poultry.

Vaccination programme against *Salmonella enteritidis* shall be applied in 2011 at least during rearing phase to all laying hens.

Vaccination is allowed in laying hens in the Slovak Republic using death or live marked vaccines registered by the Institute for the State Control of Veterinary Biological and Medicaments in Nitra. Live salmonella vaccines for which the manufacturer does not provide an appropriate method to distinguish bacteriological wild – type strains of salmonella from vaccine strains shall not be used. Application of live attenuated vaccines to laying hens during the laying phase is prohibited. Vaccination in laying hens of *Gallus gallus* will be mandatory in 2011 in the Slovak Republic.

Other preventive measures than vaccination in place

Laying hens flocks

Movement of poultry shall be carried out only in compliance with the classification of holdings which is performed for purposes of the prevention and control of infectious diseases and according to the health situation in the holding in relation to this disease. Movement is subject to the veterinary control and is carried out in compliance with the Ordinance No 297/2003 Coll. and movement from third countries in compliance with Ordinance No 216/2009 Coll.

Control program/mechanisms

The control program/strategies in place

Laying hens flocks

The legal basis of the control programme is:

Act No. 39/2007 Coll. on veterinary care

Regulation of the European Parliament and of the Council No 2160/2003/EC 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

Ordinance of the Government of the Slovak Republic No 626/2004 Coll., on the monitoring of zoonoses and zoonotic agents

Commission Regulation (EC) No. 517/2011 of 25 May 2011 implementing 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 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 1237/2007 of 23. October 2007 amending Regulation (EC) No 2160/2003 and Decision with regard to placing on the market of eggs from salmonella infected flocks of laying hens

Recent actions taken to control the zoonoses

National control programme for Salmonella infections in laying hens Gallus Gallus in Slovak Republic in 2012

Control of movement of poultry and hatching eggs

Vaccination

Measures in case of positive finding described below

Measures in case of the positive findings or single cases

Laying hens flocks

The measures must comply with the following minimum requirements:

- 1)no bird may leave the house concerned unless the competent authority has authorized the slaughter and safe destruction under supervision or slaughter in a slaughterhouse designated by the competent authority.
- 2)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 must be 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 If not destined for human consumption, such products must be used or disposed of in accordance with Regulation (EC) No. 1774/2002.
- 3)A thorough cleansing and disinfection must be carried out after slaughtering or destruction from infected

flocks, including safe disposal of manure or litter, in accordance with procedure laid down by the competent veterinary administration authority.

4) After cleaning and disinfection must be performed the effectiveness check

5) Eggs originating from flocks with unknown health status, that are suspected of being infected or from infected flocks

- may be used for human consumption only if treated in a manner that guarantees the elimination of all salmonella serotypes with public health significance;

- Labelled according legislation

Notification system in place

Owner or holder of broilers is obliged to notify the suspicion and outbreak of Salmonella infection without any delay, according to § 37 of the Act No. 39/2007 Coll. In case of breaking the law an owner or holder committed an offence according to § 48 of the Act No. 39/2007 Coll. and administrative infringement according to the § 50.

The state veterinary laboratories in the Slovak Republic notify the results of all examinations of rearing and adult laying flocks to the competent District Veterinary and Food Administrations, to farmer and private veterinarian. The District Veterinary and Food Administrations notify in the stated date the monthly report on the results to the State Veterinary and Food Administration of the Slovak Republic (they send the notification for information to the Regional Veterinary and Food Administration).

Where as a result of monitoring carried out the presence of Salmonella enteritidis, Salmonella typhimurium is detected in a laying flock, the person responsible for the laboratory carrying out the examination, the person carrying out the examination or the owner of the flock notify the results to the competent District Veterinary and Food Administration. District Veterinary and Food Administration take measures in holding and without delay inform State Veterinary and Food Administration of the Slovak Republic.

Results of the investigation

See relevant table.

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

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 target for the reduction of *Salmonella* Enteritidis and *Salmonella* Typhimurium (including monophasic strains 1,4,[5],12:i:-) in breeding flocks of turkeys shall be a reduction of the maximum percentage of flocks of broilers remaining positive of *Salmonella* enteritidis and *Salmonella* typhimurium to 1 % or less by 31 December 2012.

The control programme is yearly evaluated.

Flocks of turkeys shall be sampled:

sampling on the initiative of the food business operator

sampling by the competent authority (official sampling)

The sampling frame shall cover all flocks of fattening and breeding turkeys covered by the scope of Regulation (EC) No 2160/2003.

Sampling of flocks of breeding turkeys on the initiative of the food business operator shall take place within three weeks before the birds are moved to the slaughterhouse. The results remain only valid until maximum six weeks after sampling and therefore repeated sampling of the same flock might be required.

Additionally, sampling of flocks of breeding turkeys on the initiative of the food business operator shall take place:

- in rearing flocks: at day-old, at four weeks of age and two weeks before moving to the laying phase or laying unit,
- in adult flocks: at least every third week during the laying period at the holding or at the hatchery.

Sampling by the competent authority shall include at least:

In breeding turkeys:

- once a year, all flocks on 10 % of holdings with at least 250 adult breeding turkeys between 30 and 45 weeks of age
- district veterinary and food administrations with 10 or less broiler holdings in competence must perform official sampling in at least one holding and all flocks within holding must be sampled,
- district veterinary and food administrations with 11 or more broiler holdings in competence must perform official sampling at least in 2 holdings and all flocks within holding must be sampled.
- in any case all holdings where *Salmonella* enteritidis or *Salmonella* typhimurium was detected during the previous 12 months
- all holdings with elite, great grand parents and grand parent breeding turkeys;
- all flocks on holdings in case of detection of *Salmonella* enteritidis or *Salmonella* typhimurium from samples taken at the hatchery by food business operators or within the frame of official controls, to investigate the origin of infection;

A sampling carried out by the competent authority may replace the sampling on the initiative of the food business operator.

Meat production flocks

The target for the reduction of *Salmonella* Enteritidis and *Salmonella* Typhimurium (including monophasic strains 1,4,[5],12:i:-) in meat production flocks of turkeys shall be a reduction of the maximum percentage of flocks of broilers remaining positive of *Salmonella* enteritidis and *Salmonella* typhimurium to 1 % or less by 31 December 2012.

The control programme is yearly evaluated.

Flocks of turkeys shall be sampled:
sampling on the initiative of the food business operator
sampling by the competent authority (official sampling)

The sampling frame shall cover all flocks of fattening and breeding turkeys covered by the scope of Regulation (EC) No 2160/2003.

Sampling of flocks of fattening turkeys on the initiative of the food business operator shall take place within three weeks before the birds are moved to the slaughterhouse. The results remain only valid until maximum six weeks after sampling and therefore repeated sampling of the same flock might be required.

Additionally, sampling of flocks of fattening tukeys:

- once a year, all flocks on 10 % of the holdings with at least 500 fattening turkeys, but in any case: district veterinary and food administrations with 10 or less broiler holdings in competence must perform official sampling in at least one holding and all flocks within holding must be sampled, district veterinary and food administrations with 11 or more broiler holdings in competence must perform official sampling at least in 2 holdings and all flocks withim holding must be sampled.
- all flocks on the holding when one flock tested positive for *Salmonella* enteritidis or *Salmonella* typhimurium in samples taken by the food business operator, unless the meat of the turkeys in the flocks is destined for industrial heat treatment or another treatment to eliminate salmonella
- all flocks on the holding when one flock tested positive for *Salmonella* enteritidis or *Salmonella* typhimurium during the previous round in samples taken by the food business operator;
- each time the competent authority considers it necessary.

A sampling carried out by the competent authority may replace the sampling on the initiative of the food business operator.

Frequency of the sampling

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period
at four weeks of age and two weeks before moving to the laying phase

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period
every third week during the laying period at the holding or at the hatchery.

Meat production flocks: Rearing period

At the age of 4 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
hatcher basket liners or broken eggshells

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
boot/sock swabs, dust, faeces

Meat production flocks: Day-old chicks
hatcher basket liners or broken eggshells

Meat production flocks: Rearing period
Faeces

Meat production flocks: Before slaughter at farm
boot/sock swabs, dust, faeces

Methods of sampling (description of sampling techniques)

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

For each breeding flock, the sample shall consist of a minimum of one composite sample of visibly soiled hatcher basket liners taken at random from five separate hatcher baskets or locations in the hatcher, to reach a total of at least 1 m². If the hatching eggs from a breeding flock occupy more than one incubator, then one such composite sample shall be taken from each incubator.

In cases where hatcher basket liners are not used, 10 g broken eggshells shall be taken from 25 separate hatcher baskets, crushed, mixed and a 25 g sub sample taken.

That procedure shall be followed for sampling at the initiative of the operator as well as for official sampling.

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

Routine sampling at the initiative of the operator

Sampling shall primarily consist of faecal samples and shall aim to detect a 1 % within flock prevalence, with 95 % confidence limit. To that effect, the samples shall comprise one of the following:

(a) Pooled faeces made up of separate samples of fresh faeces each weighing not less than 1 g taken at random from a number of sites in the building in which the birds are kept, or where the birds have free access to more than one building on a particular holding, from each group of buildings on the holding in which the birds are kept. Faeces may be pooled for analysis up to a minimum of two pools.

(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 (such as 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 in the chosen sector, 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.

(c) In cage breeding flocks, sampling may consist of naturally mixed faeces from dropping belts, scrapers or deep pits, depending on the type of house. Two samples of at least 150 g shall be collected to be tested individually:

i. droppings belts beneath each tier of cages which are run regularly and discharged into an auger or conveyor system;

ii. droppings pit system in which deflectors beneath the cages are scraped into a deep pit beneath the house;

iii. droppings pit system in a step cage house when cages are offset and faeces fall directly into the pit.

There are normally several stacks of cages within a house. Pooled faeces from each stack shall be represented in the overall pooled sample. Two pooled samples shall be taken from each flock as described below.

In systems where there are belts or scrapers, these shall be run on the day of the sampling before sampling is carried out. In systems where there are deflectors beneath cages and scrapers, pooled faeces which has lodged on the scraper after it has been run, shall be collected.

In step-cage systems where there is no belt or scraper system it is necessary to collect pooled faeces from the deep pit.

Droppings belt systems: pooled faecal material from the discharge ends of the belts shall be collected.

Official sampling

(a) Routine sampling shall be the same as routine sampling by operator.

(b) Confirmatory sampling following detection of relevant salmonella from sampling at the hatchery shall be carried out as follows.

In addition to the sampling as described in point a), the sampling may include a sample of birds taken at random from within each house of birds on the farm, normally up to five birds per house, unless the authority deems necessary to sample a higher number of birds. The examination shall consist in a test for research of anti-microbials or of bacterial growth inhibitory effect in samples. A test is considered failed if a positive is found in any of the birds.

In case the presence of relevant salmonella is not detected but anti-microbials or bacterial growth inhibitory effect are, sampling of the flock for relevant salmonella and bacterial growth inhibitory effect shall be repeated until no bacterial growth inhibitory effect is detected, or the breeding flock is destroyed.

In the latter case, the breeding flock shall be accounted for as an infected breeding flock for the purpose of the Community target.

(c) Suspect cases

In exceptional cases where the competent authority has reasons to suspect false negative results at the first official sampling at the holding, a secondary official confirmatory sampling may be performed, composed of faeces or birds (for the detection of salmonella in organs).

In exceptional cases where the competent authority has reasons to suspect false positive sampling performed at the initiative of the operator at the holding, follow-up official sampling may be performed.

Meat production flocks: Rearing period

At least two pairs of boot/sock 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, or if not feasible, by other sampling techniques for faeces fit for the intended purpose.

Before putting on the boot/sock swabs, their surface shall be moistened with maximum recovery diluents (MRD: 0,8 % sodium chloride, 0,1 % peptone in sterile deionised water), or sterile water or any other diluent approved by the national reference laboratory.

The use of farm water containing antimicrobials or additional disinfectants shall be prohibited. The recommended way to moisten boot swabs shall be to pour the liquid inside before putting them on.

Alternatively, boot swabs or socks may be autoclaved with diluents within autoclave bags or jars before use. Diluents may also be applied after boots are put on using a spray or wash bottle.

It shall be ensured that all sections in a house are represented in the sampling in a proportionate way.

Each pair should cover about 50 % of the area of the house.

Alternatively, the competent authority may decide that one pair of boot swabs shall be taken, covering 100 % of the area of the house if combined with a dust sample, collected from multiple places throughout the house from surfaces with visible presence of dust.

On completion of sampling the boot/sock swabs shall be carefully removed so as not to dislodge adherent

material. Boot swabs may be inverted to retain material. They shall be placed in a bag or pot and labelled. In the case of sampling by the competent authority because of suspicion salmonella infection in a flock on that holding and in any other case considered appropriate, the competent authority shall satisfy itself by conducting further tests as appropriate so that the results of examinations for salmonella in flocks of turkeys are not affected by the use of antimicrobials in those flocks.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are detected it shall be considered as an infected flock of turkeys

Meat production flocks: Before slaughter at farm

A flock of turkeys shall be 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 of turkeys shall be counted only once per round, irrespective of the number of sampling and testing operations and only be reported in the year of the first positive sampling.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are detected, it shall be considered as an infected flock of turkeys for the purpose of the Community target

Case definition

A flock of turkeys shall be 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 of turkeys shall be counted only once per round, irrespective of the number of sampling and testing operations and only be reported in the year of the first positive sampling.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are detected, it shall be considered as an infected flock of turkeys for the purpose of the Community target.

Monitoring system

Case definition

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

A flock of turkeys shall be 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 of turkeys shall be counted only once per round, irrespective of the number of sampling and testing operations and only be reported in the year of the first positive sampling.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are detected, it shall be considered as an infected flock of turkeys for the purpose of the Community target

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

A flock of turkeys shall be 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 of turkeys shall be counted only once per round, irrespective of the number of sampling and testing operations and only be reported in the year of the first positive sampling.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but

antimicrobials or bacterial growth inhibitory effect are detected, it shall be considered as an infected flock of turkeys for the purpose of the Community target

Meat production flocks: Day-old chicks

A flock of turkeys shall be 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 of turkeys shall be counted only once per round, irrespective of the number of sampling and testing operations and only be reported in the year of the first positive sampling.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are detected, it shall be considered as an infected flock of turkeys for the purpose of the Community target

Meat production flocks: Rearing period

A flock of turkeys shall be 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 of turkeys shall be counted only once per round, irrespective of the number of sampling and testing operations and only be reported in the year of the first positive sampling.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are detected, it shall be considered as an infected flock of turkeys for the purpose of the Community target

Meat production flocks: Before slaughter at farm

A flock of turkeys shall be 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 of turkeys shall be counted only once per round, irrespective of the number of sampling and testing operations and only be reported in the year of the first positive sampling.

Where the presence of *Salmonella enteritidis* and *Salmonella typhimurium* is not detected but antimicrobials or bacterial growth inhibitory effect are detected, it shall be considered as an infected flock of turkeys for the purpose of the Community target

Diagnostic/analytical methods used

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

Bacteriological method: STN EN ISO 6579/A1:2008

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

Bacteriological method: STN EN ISO 6579/A1:2008

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

Bacteriological method: STN EN ISO 6579/A1:2008

Meat production flocks: Day-old chicks

Bacteriological method: STN EN ISO 6579/A1:2008

Meat production flocks: Rearing period

Bacteriological method: STN EN ISO 6579/A1:2008

Meat production flocks: Before slaughter at farm

Bacteriological method: STN EN ISO 6579/A1:2008

Meat production flocks: At slaughter (flock based approach)

Bacteriological method: STN EN ISO 6579/A1:2008

Other preventive measures than vaccination in place

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

Movement of poultry and hatching eggs shall be carried out for purposes of the prevention and control of infectious diseases and according to the health situation in the holding in relation to this disease.

Movement is subject to the veterinary control and is carried out in compliance with the Decree of the Slovak Government No 297/2003 Coll. and movement from third countries in compliance with Ordinance No 216/2009 Coll.

Meat production flocks

Movement of poultry and hatching eggs shall be carried out for purposes of the prevention and control of infectious diseases and according to the health situation in the holding in relation to this disease.

Movement is subject to the veterinary control and is carried out in compliance with the Decree of the Slovak Government No 297/2003 Coll. and movement from third countries in compliance with Ordinance No 216/2009 Coll.

Control program/mechanisms

The control program/strategies in place

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

The legal basis of the control programme is:

Act No. 39/2007 Coll. on veterinary care

Regulation of the European Parliament and of the Council No 2160/2003/EC 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

Ordinance of the Government of the Slovak Republic No 626/2004 Coll., on the monitoring of zoonoses and zoonotic agents

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 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 Decision 771/2009 of 20 October 2009 approving certain national programmes for the control of salmonella in turkeys

Commission Regulation (EC) No 199/2009 of 13 March 2009 laying down a transitional measure derogating from Regulation (EC) No 2160/2003 of the European Parliament and of the Council, as regards direct supply of small quantities of fresh meat derived from flocks of broilers and turkeys

Meat production flocks

The legal basis of the control programme is:

Act No. 39/2007 Coll. on veterinary care

Regulation of the European Parliament and of the Council No 2160/2003/EC 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

Ordinance of the Government of the Slovak Republic No 626/2004 Coll., on the monitoring of zoonoses and zoonotic agents

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 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 Decision 771/2009 of 20 October 2009 approving certain national programmes for the control of salmonella in turkeys

Commission Regulation (EC) No 199/2009 of 13 March 2009 laying down a transitional measure derogating from Regulation (EC) No 2160/2003 of the European Parliament and of the Council, as regards direct supply of small quantities of fresh meat derived from flocks of broilers and turkeys

Recent actions taken to control the zoonoses

- National control programme for *Salmonella* infections in turkeys in Slovak Republic in 2010-2012
- Control of movement of poultry and hatching eggs
- Vaccination
- Measures in case of positive finding : movement prohibition, birds, non-incubated eggs produced by the birds in the house, eggs for hatching , all poultry in the positive flock, including one – day chicks, must be slaughtered or destroyed so as to reduce as much as possible the risk of spreading salmonella, antibiotics may be used in accordance with legislation

Measures in case of the positive findings or single cases

When invasive serovars are confirmed in broiler flock the relevant district veterinary and food administration starts to carry out the epizootological investigation in order to detect the source of contamination.

The measures must comply with the following minimum requirements:

4.After slaughtering of infected flocks safe disposal of manure or litter must be carried out in accordance with procedure laid down by the competent veterinary administration authority.

5.A thorough cleansing and disinfection must be carried out of the building.

6.After cleaning and disinfection must be performed the effectiveness check by taking of swabs from the superficies of the house, which are designated for bacteriological investigation to the NRL. Houses can be restocked only when results of bacteriological investigation of control swabs are negative for invasive salmonella.

Notification system in place

Owner or holder of broilers is obliged to notify the suspicion and outbreak of *Salmonella* infection without any delay, according to § 37 of the Act No. 39/2007 Coll. In case of breaking the law an owner or holder committed an offence according to § 48 of the Act No. 39/2007 Coll. and administrative infringement according to the § 50.

The state veterinary laboratories in the Slovak Republic notify the results of all examinations of broiler flocks to the relevant district veterinary and food administrations, owners and private veterinarians.

Where as a result of monitoring carried out the presence of *Salmonella enteritidis*, *Salmonella typhimurium* is detected in a broiler flock, the person responsible for the laboratory carrying out the examination, the person carrying out the examination or the owner of the flock notify the results to the relevant district veterinary and food administration.

The District Veterinary and Food Administrations notify results in the annual report to the State Veterinary

and Food Administration of the Slovak Republic (they send the notification for information to the Regional Veterinary and Food Administration).

Results of the investigation

See relevant tables.

E. Salmonella spp. in animal

Monitoring system

Sampling strategy

In animals are samples for salmonella collected by the indication, in samples of dead and diseased animals in the national control programs relating primarily poultry.

The method used was the programs ISO 6579/A1: 2008 (Annex D), other samples from clinical specimens were examined by the standard method according to EN ISO 6579, OIE and Bergey's Manual. Within national control programs are sampling and investigation carried out according respective guidelines.

Frequency of the sampling

Animals at farm

In the case of suspicion of the disease occurrence, according control programs

Type of specimen taken

Animals at farm

The rectal swabs, excrements, carcasses or organs from dead animals are sent for the investigation. according control programs

Diagnostic/analytical methods used

Animals at farm

EN ISO 6579, OIE and Bergey's Manual

Control program/mechanisms

The control program/strategies in place

According relevant legislation there are performed poultry control programmes.

Monitoring of Salmonella in other animals has not been performed in Slovak Republic. Owner or farmer at own charge took samples in case of suspicion of disease.

Results of the investigation

See relevant tables.

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

In 2012 there were 10 focuses of salmonellosis in animals registered within Slovakia, in 6 districts, resp. 3 regions.

Geographical distribution of focuses of salmonellosis:

Cattle: 1 focus in Kosice Region/ Rožňava District

Poultry: 2 focuses:

Banská Bystrica Region/Zvolen District

Nitra Region/Komárno District

Banská Bystrica Region/Zvolen, Veľký Krtíš, Rimavská Sobota District

Comparing previous years salmonellosis in animals increased after few years of decreasing. There are new outbreaks of salmonellosis in poultry.

In 2012 totally 26 different serovars were isolated from animals. Predominant serovar was *S. Enteritidis* followed by *S. Infantis* and *S. Typhimurium*.

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	159	SVFI, SVI	Census	Official and industry sampling			yes		151	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - Control and eradication programmes	85	SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	533	1	1
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - Control and eradication programmes		SVFI, SVI	Suspect sampling	Official sampling	animal sample > faeces			Flock	5	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	165	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > delivery box liner			Flock	20	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > fabric swab			Flock	32	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > eggshells			Flock	14	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	3	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > eggshells			Flock	10	0	

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 - during rearing period - at farm - Control and eradication programmes	41	SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	67	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - at farm - Control and eradication programmes	7	SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	4	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	5	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > fabric swab			Flock	2	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > eggshells			Flock	5	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	2	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - at farm - Control and eradication programmes	26	SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	8	0	
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	37	0	
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	21	0	

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, unspecified - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	1	0	
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > delivery box liner			Flock	1	0	
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > eggshells			Flock	172	0	
Gallus gallus (fowl) - parent breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	2	0	
	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-	Salmonella spp., unspecified					
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes											
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - Control and eradication programmes											
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - 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
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - at farm - 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
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks - at farm - 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
Gallus gallus (fowl) - parent breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes						

Table Salmonella in other birds

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-
Quails - at farm - Monitoring	SVFI, SVI	Suspect sampling		animal sample > faeces		Flock	4	0			
Ostriches - farmed - at farm - Monitoring	SVFI, SVI	Suspect sampling		animal sample > eggs		Flock	1	0			
Birds - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	9	0			
Birds - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	4	0			
Birds - wild - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	1	1			
Birds - zoo animal - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	15	2		2	
Canary - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	3	0			
Canary - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	2	1		1	
Falcons - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	4	1	1		
Parrots - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	7	0			
Parrots - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	18	0			

Table Salmonella in other birds

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-
Pheasants - at farm - Monitoring	SVFI, SVI	Suspect sampling		animal sample > faeces		Flock	13	0			
Pheasants - laying hens - at farm	SVFI, SVI	Suspect sampling		environmental sample > dust		Flock	1	0			
Pheasants - laying hens - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > eggs		Flock	1	0			
Pigeons - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	21	2		2	
Pigeons - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	7	2		2	
Pigeons - meat production flocks - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Flock	6	1		1	
Pigeons - meat production flocks - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Flock	17	0			
Pigeons - meat production flocks - Clinical investigations	SVFI, SVI	Objective sampling	Industry sampling	animal sample > cloacal swab		Animal	1	1		1	
Quails - at farm - Monitoring	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Flock	2	1			1
	Salmonella spp., unspecified										
Quails - at farm - Monitoring											

Table Salmonella in other birds

	Salmonella spp., unspecified	S. Agona
Ostriches - farmed - at farm - Monitoring		
Birds - pet animals - Clinical investigations		
Birds - pet animals - Clinical investigations		
Birds - wild - Clinical investigations		1
Birds - zoo animal - at zoo - Clinical investigations		
Canary - pet animals - Clinical investigations		
Canary - pet animals - Clinical investigations		
Falcons - Clinical investigations		
Parrots - pet animals - Clinical investigations		
Parrots - pet animals - Clinical investigations		
Pheasants - at farm - Monitoring		
Pheasants - laying hens - at farm		
Pheasants - laying hens - at farm - Clinical investigations		
Pigeons - Clinical investigations		
Pigeons - Clinical investigations		
Pigeons - meat production flocks - Clinical investigations		
Pigeons - meat production flocks - Clinical investigations		

Table Salmonella in other birds

	Salmonella spp., unspecified	S. Agona
Pigeons - meat production flocks - Clinical investigations		
Quails - at farm - Monitoring		

Table Salmonella in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-
Cats - veterinary clinics - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	3	0			
Cats - veterinary clinics - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	77	5	4	1	
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	41	1	1		
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	32	2	1	1	
Cattle (bovine animals) - at slaughterhouse - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > organ/tissue		Animal	59	0			
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	35	0			
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	124	1			1
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > rectum-anal swab		Animal	2	1	1		
Cattle (bovine animals) - heifers - at farm - Clinical investigations	SVFI, SVI			animal sample > organ/tissue		Animal	6	0			
Chinchillas - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	2	1	1		
Deer - wild - red deer - from hunting - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	6	0			

Table Salmonella in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-
Dogs - veterinary clinics - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	291	14	7		3
Dogs - veterinary clinics - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	9	1			
Dogs - veterinary clinics - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > rectum-anal swab		Animal	15	1			
Goats - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	7	0			
Minks - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	1	0			
Monkeys - zoo animal - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	2	0			
Pigs - breeding animals - unspecified - gilts - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	16	1			
Pigs - breeding animals - unspecified - gilts - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > rectum-anal swab		Animal	2	0			
Pigs - breeding animals - unspecified - piglets - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	12	2		1	
Pigs - fattening pigs - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > rectum-anal swab		Animal	8	0			
Pigs - fattening pigs - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	66	4		3	

Table Salmonella in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-
Pigs - fattening pigs - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	63	1			
Pigs - fattening pigs - at slaughterhouse - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > organ/tissue		Animal	55	4		1	
Rabbits - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	6	0			
Reptiles - zoo animal - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > rectum-anal swab		Animal	5	5			
Sheep - animals over 1 year - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > rectum-anal swab		Animal	1	0			
Sheep - animals over 1 year - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	14	0			
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > rectum-anal swab		Animal	1	0			
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	41	0			
Snakes - zoo animal - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	19	4			
Turtles - pet animals - veterinary clinics - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	3	0			
Turtles - pet animals - veterinary clinics - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	4	3			

Table Salmonella in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-
Turtles - pet animals - veterinary clinics - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > rectum-anal swab		Animal	2	2			
	Salmonella spp., unspecified	S. Agona	S. Anatum	S. Braenderup	S. Choleraesuis	S. Derby	S. Infantis	S. Langenhorn	S. Lattenkamp	S. Litchfield	S. Mendoza
Cats - veterinary clinics - Clinical investigations											
Cats - veterinary clinics - Clinical investigations											
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations											
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations											
Cattle (bovine animals) - at slaughterhouse - Surveillance											
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations											
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations											
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations											
Cattle (bovine animals) - heifers - at farm - Clinical investigations											
Chinchillas - at farm - Clinical investigations											

Table Salmonella in other animals

	Salmonella spp., unspecified	S. Agona	S. Anatum	S. Braenderup	S. Choleraesuis	S. Derby	S. Infantis	S. Langenhorn	S. Lattenkamp	S. Litchfield	S. Mendoza
Deer - wild - red deer - from hunting - Clinical investigations											
Dogs - veterinary clinics - Clinical investigations		1									1
Dogs - veterinary clinics - Clinical investigations							1				
Dogs - veterinary clinics - Clinical investigations				1							
Goats - at farm - Clinical investigations											
Minks - at farm - Clinical investigations											
Monkeys - zoo animal - at zoo - Clinical investigations											
Pigs - breeding animals - unspecified - gilts - at farm - Clinical investigations											
Pigs - breeding animals - unspecified - gilts - at farm - Clinical investigations											
Pigs - breeding animals - unspecified - piglets - at farm - Clinical investigations						1					
Pigs - fattening pigs - at farm - Clinical investigations											
Pigs - fattening pigs - at farm - Clinical investigations					1						
Pigs - fattening pigs - at farm - Clinical investigations											
Pigs - fattening pigs - at slaughterhouse - Surveillance			1			2					

Table Salmonella in other animals

	Salmonella spp., unspecified	S. Agona	S. Anatum	S. Braenderup	S. Choleraesuis	S. Derby	S. Infantis	S. Langenhorn	S. Lattenkamp	S. Litchfield	S. Mendoza
Rabbits - at farm - Clinical investigations											
Reptiles - zoo animal - at zoo - Clinical investigations	4							1			
Sheep - animals over 1 year - at farm - Clinical investigations											
Sheep - animals over 1 year - at farm - Clinical investigations											
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations											
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations											
Snakes - zoo animal - at zoo - Clinical investigations											
Turtles - pet animals - veterinary clinics - Clinical investigations											
Turtles - pet animals - veterinary clinics - Clinical investigations									1		
Turtles - pet animals - veterinary clinics - Clinical investigations										2	
	S. Ohio	S. Saintpaul	S. Senftenberg	S. enterica subsp. arizonae	S. enterica subsp. diarizonae						
Cats - veterinary clinics - Clinical investigations											

Table Salmonella in other animals

	S. Ohio	S. Saintpaul	S. Senftenberg	S. enterica subsp. arizonae	S. enterica subsp. diarizonae
Cats - veterinary clinics - Clinical investigations					
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations					
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations					
Cattle (bovine animals) - at slaughterhouse - Surveillance					
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations					
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations					
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations					
Cattle (bovine animals) - heifers - at farm - Clinical investigations					
Chinchillas - at farm - Clinical investigations					
Deer - wild - red deer - from hunting - Clinical investigations					
Dogs - veterinary clinics - Clinical investigations		2			
Dogs - veterinary clinics - Clinical investigations					
Dogs - veterinary clinics - Clinical investigations					
Goats - at farm - Clinical investigations					
Minks - at farm - Clinical investigations					

Table Salmonella in other animals

	S. Ohio	S. Saintpaul	S. Senftenberg	S. enterica subsp. arizonae	S. enterica subsp. diarizonae
Monkeys - zoo animal - at zoo - Clinical investigations					
Pigs - breeding animals - unspecified - gilts - at farm - Clinical investigations	1				
Pigs - breeding animals - unspecified - gilts - at farm - Clinical investigations					
Pigs - breeding animals - unspecified - piglets - at farm - Clinical investigations					
Pigs - fattening pigs - at farm - Clinical investigations					
Pigs - fattening pigs - at farm - Clinical investigations					
Pigs - fattening pigs - at farm - Clinical investigations			1		
Pigs - fattening pigs - at slaughterhouse - Surveillance					
Rabbits - at farm - Clinical investigations					
Reptiles - zoo animal - at zoo - Clinical investigations					
Sheep - animals over 1 year - at farm - Clinical investigations					
Sheep - animals over 1 year - at farm - Clinical investigations					
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations					

Table Salmonella in other animals

	S. Ohio	S. Saintpaul	S. Senftenberg	S. enterica subsp. arizonae	S. enterica subsp. diarizonae
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations					
Snakes - zoo animal - at zoo - Clinical investigations				2	2
Turtles - pet animals - veterinary clinics - Clinical investigations					
Turtles - pet animals - veterinary clinics - Clinical investigations					2
Turtles - pet animals - veterinary clinics - Clinical investigations					

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 - adult - at farm - Control and eradication programmes	392	DVFA	Census	Official and industry sampling			yes	Flock	387	7	7
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	2299	DVFA	Census	Official and industry sampling			no		2297	25	25
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes	49	DVFA	Census	Official and industry sampling			yes		49	0	
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes	8	DVFA	Census	Official and industry sampling			yes		8	0	
Ducks - meat production flocks - at farm - Clinical investigations		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	1	1	
Ducks - meat production flocks - at farm - Clinical investigations		SVFI, SVI	Objective sampling	Industry sampling	animal sample > cloacal swab			Flock	1	0	
Ducks - meat production flocks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	1	1	
Ducks - meat production flocks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	animal sample > cloacal swab			Flock	2	0	
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	2299	SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	2080	30	7
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes ¹⁾		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > boot swabs			Flock	694	9	6
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	8	0	

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) - broilers - before slaughter - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > cloacal swab			Flock	3	0	
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	environmental sample > boot swabs			Flock	122	32	18
Gallus gallus (fowl) - broilers - before slaughter - at slaughterhouse - Control and eradication programmes		SVFI, SVI	Suspect sampling	Official sampling	animal sample > organ/tissue			Flock	12	0	
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	environmental sample			Flock	1	1	
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > delivery box liner			Flock	464	18	5
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	84	3	2
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	animal sample > cloacal swab			Flock	17	0	
Gallus gallus (fowl) - broilers - during rearing period - at farm - Clinical investigations		SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue			Flock	15	3	2
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	environmental sample > boot swabs			Flock	16	0	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	138	10	7
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Suspect sampling	Official sampling	animal sample > caecum			Flock	1	1	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 - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > boot swabs			Flock	217	7	7
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	environmental sample > dust			Flock	32	11	11
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > eggs			Flock	3	0	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Suspect sampling	Official sampling	environmental sample > boot swabs and dust			Flock	13	1	1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > cloacal swab			Flock	12	0	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Suspect sampling	Official sampling	animal sample > cloacal swab			Flock	1	1	1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Suspect sampling	Official sampling	animal sample > faeces			Flock	5	3	2
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	268	SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	289	5	4
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Suspect sampling	Official sampling	animal sample > eggs			Flock	1	1	1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Suspect sampling	Official sampling	environmental sample > dust			Flock	6	3	3
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	32	0	

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 - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling				Flock	4	0	
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > delivery box liner			Flock	45	0	
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > cloacal swab			Flock	1	0	
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample			Flock	1	0	
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > boot swabs			Flock	10	0	
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	1	1	1
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes	124	SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	51	0	
Geese - meat production flocks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	animal sample > eggs			Flock	1	0	
Geese - meat production flocks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	6	2	

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
Geese - meat production flocks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > delivery box liner			Flock	1	0	
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > boot swabs			Flock	265	0	
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes	49	SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	5	0	
Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > cloacal swab			Flock	1	0	
Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > delivery box liner			Flock	2	0	
Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	9	0	
Turkeys - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > boot swabs			Flock	4	0	
Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	1	0	
Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > cloacal swab			Flock	1	0	

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
Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes	8	SVFI, SVI	Objective sampling	Official sampling	environmental sample > boot swabs			Flock	4	1	
Turkeys - meat production flocks - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	4	2	
Turkeys - meat production flocks - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	6	1	1
Turkeys - meat production flocks - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	9	0	
Turkeys - unspecified - at farm - Clinical investigations		SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue			Flock	1	1	
	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,12:-:1,2	S. 6,8:e,h:-	S. Havana	S. Infantis	S. Kentucky	S. Kottbus	S. Lille	S. Madras
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes											
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes											
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes											

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,12:-:1,2	S. 6,8:e,h:-	S. Havana	S. Infantis	S. Kentucky	S. Kottbus	S. Lille	S. Madras
Ducks - meat production flocks - at farm - Clinical investigations	1										
Ducks - meat production flocks - at farm - Clinical investigations											
Ducks - meat production flocks - at farm - Monitoring									1		
Ducks - meat production flocks - at farm - Monitoring											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes					4	1	16				1
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes ¹⁾							4				
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes							13			1	
Gallus gallus (fowl) - broilers - before slaughter - at slaughterhouse - Control and eradication programmes											
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring							1				
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring							1			11	1

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,12:-:1,2	S. 6,8:e,h:-	S. Havana	S. Infantis	S. Kentucky	S. Kottbus	S. Lille	S. Madras
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring							1				
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring											
Gallus gallus (fowl) - broilers - during rearing period - at farm - Clinical investigations							1				
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes				1			2				
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes											

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,12:-:1,2	S. 6,8:e,h:-	S. Havana	S. Infantis	S. Kentucky	S. Kottbus	S. Lille	S. Madras
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes							1				
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes							1				
Gallus gallus (fowl) - laying hens - adult - 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 - day-old chicks - 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 - day-old chicks - at farm - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes											

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,12:-:1,2	S. 6,8:e,h:-	S. Havana	S. Infantis	S. Kentucky	S. Kottbus	S. Lille	S. Madras
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes											
Geese - meat production flocks - at farm - Monitoring											
Geese - meat production flocks - at farm - Monitoring	1										
Geese - meat production flocks - at farm - Monitoring											
Turkeys - breeding flocks, unspecified - adult - 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 - day-old chicks - at farm - Control and eradication programmes											
Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes											

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,12:-:1,2	S. 6,8:e,h:-	S. Havana	S. Infantis	S. Kentucky	S. Kottbus	S. Lille	S. Madras
Turkeys - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes											
Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes											
Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes											
Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes								1			
Turkeys - meat production flocks - day-old chicks - at farm - Control and eradication programmes								1			
Turkeys - meat production flocks - during rearing period - at farm - Control and eradication programmes											
Turkeys - meat production flocks - during rearing period - at farm - Control and eradication programmes											
Turkeys - unspecified - at farm - Clinical investigations											

Table Salmonella in other poultry

	S. Newport
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes	
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes	
Ducks - meat production flocks - at farm - Clinical investigations	
Ducks - meat production flocks - at farm - Clinical investigations	
Ducks - meat production flocks - at farm - Monitoring	
Ducks - meat production flocks - at farm - Monitoring	
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	1
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes ¹⁾	
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	

Table Salmonella in other poultry

	S. Newport
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	
Gallus gallus (fowl) - broilers - before slaughter - at slaughterhouse - Control and eradication programmes	
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring	
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring	
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring	
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Monitoring	
Gallus gallus (fowl) - broilers - during rearing period - at farm - Clinical investigations	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	

Table Salmonella in other poultry

	S. Newport
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - adult - 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 - day-old chicks - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - Control and eradication programmes	

Table Salmonella in other poultry

	S. Newport
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes	
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes	
Geese - meat production flocks - at farm - Monitoring	
Geese - meat production flocks - at farm - Monitoring	1
Geese - meat production flocks - at farm - Monitoring	
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes	
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes	

Table Salmonella in other poultry

	S. Newport
Turkeys - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes	
Turkeys - breeding flocks, unspecified - day-old chicks - 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	
Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes	
Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes	
Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes	
Turkeys - meat production flocks - day-old chicks - at farm - Control and eradication programmes	1
Turkeys - meat production flocks - during rearing period - at farm - Control and eradication programmes	

Table Salmonella in other poultry

	S. Newport
Turkeys - meat production flocks - during rearing period - at farm - Control and eradication programmes	
Turkeys - unspecified - at farm - Clinical investigations	1

Comments:

¹⁾ 2 serovars in 1 flock

2.1.4 Salmonella in feedingstuffs

A. Salmonella spp. in feed

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

In 2012 number of positive samples increased. Totally 10 serovars were isolated from feedingstuffs. *S. Enteritidis* (4x), *S. Typhimurium* (2x), *S. Infantis*, *S. Mbandaka* and *S. Stanley* (1x).

Recent actions taken to control the zoonoses

Official controls at feed level is taken:

- The Central Control and Testing Institute of Agriculture in co-operation with the State Veterinary and Food Administration of the Slovak Republic elaborates the yearly National Plan on Feed Control, covering competences and priorities for feed control in the respective year in accordance with national and EU legislation (Council Directive 95/53/EC).
- The State Veterinary and Food Administration of the Slovak Republic elaborates the yearly Plan of official control and VPO (plan of veterinary prevention and protection) of feed for DVFA (District Veterinary and Food Administration) inspectors in accordance with veterinary EU legislation.

In case, when confirmation samples are positive for invasive salmonella the competent authority starts to carry out an investigation in order to:

- identify the source of contamination, in particular by means of official samples taken at different stages of production,
- examine the application of rules and controls concerning the disposal and processing of animal waste and in particular those which are mentioned in accordance with the special rule,
- establish procedures for good manufacturing practices and ensure compliance with recognized procedures.

Samples intended for bacteriological testing for salmonella presence were taken within the frame of official controls of farm animal feed manufacturing, as well as controls on animal farms and within inspections of plants approved in accordance with Regulation of the European Parliament and of the Council (EC) No 1774/ 2002 laying down health rules concerning animal byproducts not intended for human consumption. The samples were tested in the State Veterinary and Food Institutes, using the method STN ISO 6579.

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 - final product - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	11	0		
Compound feedingstuffs for pigs - final product - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	5	0		
Compound feedingstuffs for poultry - laying hens - final product - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	2	0		
Compound feedingstuffs for poultry - broilers - final product - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	3	0		
Compound feedingstuffs for cattle - final product - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	29	1		
Compound feedingstuffs for fish - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	1	0		
Compound feedingstuffs for fish - final product - pelleted - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	1	0		
Compound feedingstuffs for pigs - final product - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	16	0		
Compound feedingstuffs for poultry - breeders - final product - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	4	0		
Compound feedingstuffs for poultry - broilers - final product - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	8	0		
Compound feedingstuffs for poultry - laying hens - final product - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	13	1	1	
Compound feedingstuffs for rabbits - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	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
Compound feedingstuffs for sheep - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	3	0		
Compound feedingstuffs for sheep - final product - non-pelleted/meal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	1	0		
Compound feedingstuffs, not specified - at retail - Surveillance (for turtles)	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	1	0		
	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Mbandaka								
Compound feedingstuffs for cattle - final product - at feed mill - Surveillance											
Compound feedingstuffs for pigs - final product - at feed mill - Surveillance											
Compound feedingstuffs for poultry - laying hens - final product - at feed mill - Surveillance											
Compound feedingstuffs for poultry - broilers - final product - at feed mill - Surveillance											
Compound feedingstuffs for cattle - final product - at farm - Surveillance										1	
Compound feedingstuffs for fish - at farm - Surveillance											
Compound feedingstuffs for fish - final product - pelleted - at feed mill - Surveillance											

Table Salmonella in compound feedingstuffs

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Mbandaka
Compound feedingstuffs for pigs - final product - at farm - Surveillance			
Compound feedingstuffs for poultry - breeders - final product - at farm - Surveillance			
Compound feedingstuffs for poultry - broilers - final product - at farm - Surveillance			
Compound feedingstuffs for poultry - laying hens - final product - at farm - Surveillance			
Compound feedingstuffs for rabbits - at farm - Surveillance			
Compound feedingstuffs for sheep - at farm - Surveillance			
Compound feedingstuffs for sheep - final product - non-pelleted/meal - at feed mill - Surveillance			
Compound feedingstuffs, not specified - at retail - Surveillance (for turtles)			

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	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	41	0		
Feed material of land animal origin - meat and bone meal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	12	0		
Feed material of land animal origin - poultry offal meal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	15	3	2	
Feed material of land animal origin - blood meal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	5	0		
Feed material of land animal origin - animal fat - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	22	0		
Feed material of marine animal origin - fish meal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	15	0		
Feed material of land animal origin - dairy products - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	5	0		
Feed material of land animal origin - dairy products - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	26	0		
Feed material of land animal origin - protein meal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	8	0		
Feed material of marine animal origin - fish meal - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	2	0		

Table Salmonella in feed material of animal origin

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis
Feed material of land animal origin - dairy products - at feed mill - Surveillance			
Feed material of land animal origin - meat and bone meal - at feed mill - Surveillance			
Feed material of land animal origin - poultry offal meal - at feed mill - Surveillance			1
Feed material of land animal origin - blood meal - at feed mill - Surveillance			
Feed material of land animal origin - animal fat - at feed mill - Surveillance			
Feed material of marine animal origin - fish meal - at feed mill - Surveillance			
Feed material of land animal origin - dairy products - at farm - Surveillance			
Feed material of land animal origin - dairy products - at feed mill - Surveillance			
Feed material of land animal origin - protein meal - at feed mill - Surveillance			
Feed material of marine animal origin - fish meal - at farm - 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
Feed material of cereal grain origin - barley derived - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	1	0		
Feed material of cereal grain origin - wheat derived - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	3	0		
Feed material of cereal grain origin - other cereal grain derived - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	3	0		
Feed material of cereal grain origin - maize derived - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	1	0		
Feed material of oil seed or fruit origin - soya (bean) derived - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	4	0		
Other feed material - forages and roughages - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	3	0		
Feed material of cereal grain origin - barley derived - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	2	0		
Feed material of cereal grain origin - maize derived - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	7	1		1
Feed material of cereal grain origin - oat derived - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	1	0		
Feed material of cereal grain origin - wheat derived - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	10	0		
Feed material of oil seed or fruit origin - soya (bean) derived - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	3	1		
Other feed material - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	3	0		

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 - drinking water - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	2	0		
Other feed material - forages and roughages - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	8	1	1	
Pet food - dog snacks (pig ears, chewing bones) - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	12	0		
Pet food - dog snacks (pig ears, chewing bones) - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	4	0		
Pet food - dog snacks (pig ears, chewing bones) - at retail - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	58	2		1
Pet food - final product - canned products - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	24	0		
Pet food - final product - canned products - at retail - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	2	0		
Pet food - final product - pelleted - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	3	0		
Pet food - final product - pelleted - at retail - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	20	0		
	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Stanley							
Feed material of cereal grain origin - barley derived - at feed mill - Surveillance											

Table Salmonella in other feed matter

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Stanley
Feed material of cereal grain origin - wheat derived - at feed mill - Surveillance				
Feed material of cereal grain origin - other cereal grain derived - at feed mill - Surveillance				
Feed material of cereal grain origin - maize derived - at feed mill - Surveillance				
Feed material of oil seed or fruit origin - soya (bean) derived - at feed mill - Surveillance				
Other feed material - forages and roughages - at feed mill - Surveillance				
Feed material of cereal grain origin - barley derived - at farm - Surveillance				
Feed material of cereal grain origin - maize derived - at farm - Surveillance				
Feed material of cereal grain origin - oat derived - at farm - Surveillance				
Feed material of cereal grain origin - wheat derived - at farm - Surveillance				
Feed material of oil seed or fruit origin - soya (bean) derived - at farm - Surveillance			1	
Other feed material - at farm - Surveillance				
Other feed material - drinking water - at feed mill - Surveillance				
Other feed material - forages and roughages - at farm - Surveillance				

Table Salmonella in other feed matter

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Infantis	S. Stanley
Pet food - dog snacks (pig ears, chewing bones) - at feed mill - Surveillance				
Pet food - dog snacks (pig ears, chewing bones) - at feed mill - Surveillance				
Pet food - dog snacks (pig ears, chewing bones) - at retail - Surveillance				1
Pet food - final product - canned products - at feed mill - Surveillance				
Pet food - final product - canned products - at retail - Surveillance				
Pet food - final product - pelleted - at feed mill - Surveillance				
Pet food - final product - pelleted - at retail - Surveillance				

2.1.5 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
	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Sources of isolates													
Number of isolates in the laboratory			5				8	4	117	21	3		4
Number of isolates serotyped			5				8	4	117	21	3		4
Number of isolates per serovar													
S. 1,4,[5],12:i:-			1										
S. 4,12:-:1,2									1				
S. 6,8:e,h:-									4				
S. Agona													
S. Anatum								1					
S. Braenderup													

Table Salmonella serovars in animals

Serovar	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
Sources of isolates													
Number of isolates in the laboratory			5				8	4	117	21	3		4
Number of isolates serotyped			5				8	4	117	21	3		4
Number of isolates per serovar													
S. Choleraesuis							1						
S. Derby							1	2					
S. Enteritidis			3						71	7	2		1
S. Havana									1				
S. Infantis									37	2	1		
S. Kentucky													2
S. Kottbus													
S. Langenhorn													
S. Lattenkamp													
S. Lille									1	11			
S. Litchfield													

Table Salmonella serovars in animals

Serovar	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
Sources of isolates													
Number of isolates in the laboratory			5				8	4	117	21	3		4
Number of isolates serotyped			5				8	4	117	21	3		4
Number of isolates per serovar													
S. Madras									1	1			
S. Mendoza													
S. Newport									1				1
S. Ohio							1						
S. Saintpaul													
S. Senftenberg							1						
S. Typhimurium			1				4	1					
S. enterica subsp. arizonae													
S. enterica subsp. diarizonae													
Salmonella spp., unspecified													

Table Salmonella serovars in animals

Serovar	Other poultry			Other animals			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Sources of isolates							
Number of isolates in the laboratory	3	2			2	46	
Number of isolates serotyped	3	2			2	46	
Number of isolates per serovar							
S. 1,4,[5],12:i:-					1	3	
S. 4,12:-:1,2							
S. 6,8:e,h:-							
S. Agona						2	
S. Anatum							
S. Braenderup						1	
S. Choleraesuis							
S. Derby							
S. Enteritidis					1	12	
S. Havana							
S. Infantis						1	

Table Salmonella serovars in animals

Serovar	Other poultry			Other animals			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Sources of isolates							
Number of isolates in the laboratory	3	2			2	46	
Number of isolates serotyped	3	2			2	46	
Number of isolates per serovar							
S. Kentucky							
S. Kottbus	1						
S. Langenhorn						1	
S. Lattenkamp						1	
S. Lille							
S. Litchfield						2	
S. Madras							
S. Mendoza						1	
S. Newport	1	1					
S. Ohio							
S. Saintpaul						2	

Table Salmonella serovars in animals

Serovar	Other poultry			Other animals			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Sources of isolates							
Number of isolates in the laboratory	3	2			2	46	
Number of isolates serotyped	3	2			2	46	
Number of isolates per serovar							
S. Senftenberg							
S. Typhimurium	1	1				10	
S. enterica subsp. arizonae						2	
S. enterica subsp. diarizonae						4	
Salmonella spp., unspecified						4	

Table Salmonella serovars in feed

Serovar	Compound feedingstuffs for pigs		Compound feedingstuffs for cattle		Compound feedingstuffs for poultry - laying hens		Feed material of land animal origin - poultry offal meal		Other feed material	
	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical
Sources of isolates										
Number of isolates in the laboratory										
Number of isolates serotyped			1		1		3		5	
Number of isolates per serovar										
S. Enteritidis					1		2		1	
S. Infantis							1		1	
S. Mbandaka			1							
S. Stanley									1	
S. Typhimurium									2	

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	
	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Sources of isolates										
Number of isolates in the laboratory										
Number of isolates serotyped			1	5		17		3		18
Number of isolates per serovar										
S. 1,4,[5],12:i:-				1						
S. Enteritidis			1	1		3				9
S. Infantis				2		12				2
S. Kentucky								3		
S. Mbandaka						1				
S. Napoli										1
S. Plymouth										2
S. Rissen				1						
S. Typhimurium						1				3
S. enterica subsp. salamae										1

Table Salmonella serovars in food

Table Salmonella Enteritidis phage types in animals

Phagetype	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
Sources of isolates													
Number of isolates in the laboratory									71				
Number of isolates phagetyped	0	0	0	0	0	0	0	0	4	0	0	0	0
Number of isolates per phagetype													
PT 22									1				
PT 8									3				

Phagetype	Other poultry		
	Monitoring	Clinical	Surveillance
Sources of isolates			
Number of isolates in the laboratory			
Number of isolates phagetyped	0	0	0
Number of isolates per phagetype			
PT 22			
PT 8			

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	
	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Sources of isolates										
Number of isolates in the laboratory			1	1		3				8
Number of isolates phagetyped	0	0	1	0	0	1	0	0	0	8
Number of isolates per phagetype										
PT 2										1
PT 23										3
PT 8			1			1				4

Table Salmonella Typhimurium 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	
	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Sources of isolates										
Number of isolates in the laboratory						1				3
Number of isolates phagetyped	0	0	0	0	0	0	0	0	0	1
Number of isolates per phagetype										
U 302										1

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

Phagetype	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
	Monitoring	Clinical	Control program	Surveillance	Monitoring	Clinical	Control program	Surveillance	Monitoring	Clinical	Control program	Surveillance	Monitoring
Sources of isolates													
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													
U 311													

Phagetype	Other poultry			Other animals			
	Clinical	Control program	Surveillance	Control program	Monitoring	Clinical	Surveillance
Sources of isolates							
Number of isolates in the laboratory						3	
Number of isolates phagetyped	0	0	0			2	
Number of isolates per phagetype							
U 311						2	

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	
	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Sources of isolates										
Number of isolates in the laboratory				1						
Number of isolates phagetyped	0	0	0	1	0	0	0	0	0	0
Number of isolates per phagetype										
DT 208				1						

2.1.6 Antimicrobial resistance in Salmonella isolates

A. Antimicrobial resistance in Salmonella in pigs

Notification system in place

B. Antimicrobial resistance in Salmonella in poultry

Laboratory methodology used for identification of the microbial isolates

Notification system in place

C. Antimicrobial resistance in Salmonella in foodstuff derived from cattle

Notification system in place

D. Antimicrobial resistance of *Salmonella* spp. in animal

Sampling strategy used in monitoring

Frequency of the sampling

The sampling is random from the diseased or dead animals at farm and from subclinical cases at slaughterhouses (cattle, pigs).

The sampling is performed according to Slovak National control programme for *Salmonella* (poultry). For details see the part *Salmonella* in animals.

Type of specimen taken

It is described in part *Salmonella* spp. in animals.

Methods of sampling (description of sampling techniques)

Strains isolated during year were sent from regional state veterinary laboratories to NRL for *Salmonella* for serotyping and determination of antimicrobial resistance. It is mandatory that at least one isolate from each notified incident of *Salmonella* is confirmed at NRL.

Procedures for the selection of isolates for antimicrobial testing

The selection for antimicrobial susceptibility testing are carried out from all the isolates at NRL for *Salmonella*. Only one isolate from each serotype per holding and year (cattle, pigs) and only one isolate from positive flock (poultry) is examined.

Methods used for collecting data

All the susceptibility tests for monitoring antimicrobial resistance are performed at NRL for *Salmonella* and the results are stored in an appropriate database. Tested isolates are stored at NRL minimal 2 years, isolates from baseline surveys minimal 5 years

Laboratory methodology used for identification of the microbial isolates

Isolation of *Salmonella* was done based on ISO 6579 including Annex D. The *Salmonella* isolates were serotyped following the Kauffmann-White scheme.

Antimicrobial susceptibility was tested by a dilution method in cation adjusted Muller-Hinton broth. The tests were performed following the standards for microdilution of the NCCLS/CLSI, ISO, WHO - GSS protocol and the manufacturers guidelines. Microplate Sensititre EUMVS2 from Trek were used for susceptibility testing.

As quality control, strain *Escherichia coli* ATCC 25922 was included. The NRL participate in EQAS proficiency tests organised by DTU/DFVF Copenhagen regularly yearly.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Antimicrobials recommended by EFSA and European Commission plus additional antimicrobials. For details on antimicrobials included in monitoring and ranges see the respective tables.

Cut-off values used in testing

As breakpoints in antimicrobial resistance monitoring were used epidemiological cut-off values recommended by EFSA, EC and European Committee on Antimicrobial Susceptibility Testing (EUCAST), when were available. For details see breakpoints and quantitative tables.

Control program/mechanisms

The control program/strategies in place

Results of the investigation

The occurrence of *Salmonella* isolates decreased in comparison to previous years. It was noted a change of *Salmonella* serovars too. While in previous years was dominated serovar *S. Enteritidis* in the most categories, now it is *S. Infantis* the most frequent serovar in broilers.

The overall antimicrobial resistance situation in *S. Enteritidis* isolates is favourable. Only sporadic resistance to ciprofloxacin and nalidixic acid was noted.

Isolation of the same serovars with similar resistance in one day chicken and in broilers pointing out probably source of *Salmonella* contamination.

Occurrence of pentaresistant *S. Typhimurium* was recorded in pigs as in previous years.

All the pentaresistant strains *S. Typhimurium* isolated up to now in calves and pigs came from clinical samples. The another resistant *S. Typhimurium* clones including ASSuT resistance were isolated from clinical samples and pig meat.

In serovars *S. Enteritidis* and *S. Typhimurium* was recorded MIC for Colistine >2 microg/ml sporadically.

Besides multiresistant *S. Infantis* was noted a occurrence of another multiresistant serovars as *S. Kentucky* and *S. Newport* in the last months.

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

The occurrence of *Salmonella* isolates decreased in comparison to previous years. It is noted a change of *Salmonella* serovars too. May be possible increasing some multiresistant serovars *S. Infantis*, *S. Kentucky*, *S. Newport*, etc.

E. Antimicrobial resistance of *Salmonella* spp. in food

Sampling strategy used in monitoring

Frequency of the sampling

The sampling is performed according to Plan for sampling and laboratory examination of products of animal origin for official controls. Samples of foodstuffs were taken at all stages of food chain.

Type of specimen taken

It is described in part *Salmonella* spp. in foodstuffs.

Methods of sampling (description of sampling techniques)

Strains isolated during year were sent from regional state veterinary laboratories to NRL for *Salmonella* for serotyping and determination of antimicrobial resistance. It is mandatory that at least one isolate from each notified incident of *Salmonella* is confirmed at NRL.

Procedures for the selection of isolates for antimicrobial testing

The selection for antimicrobial susceptibility testing are carried out from all the isolates at NRL for *Salmonella*. Only one isolate from each serotype per batch is examined.

Methods used for collecting data

All the susceptibility tests for monitoring antimicrobial resistance are performed at NRL for *Salmonella* and the results are stored in an appropriate database. Tested isolates are stored at NRL minimal 2 years, isolates from baseline surveys minimal 5 years.

Laboratory methodology used for identification of the microbial isolates

Isolation of *Salmonella* was done based on ISO 6579 including Annex D. The *Salmonella* isolates were serotyped following the Kauffmann-White scheme.

Antimicrobial susceptibility was tested by a dilution method in cation adjusted Muller-Hinton broth. The tests were performed following the standards for microdilution of the NCCLS/CLSI, ISO, WHO - GSS protocol and the manufacturers guidelines. Microplate Sensititre EUMVS2 from Trek were used for susceptibility testing.

As quality control, strain *Escherichia coli* ATCC 25922 was included. The NRL participate in EQAS proficiency tests organised by DTU/DFVF Copenhagen regularly yearly.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Antimicrobials recommended by EFSA and European Commission plus additional antimicrobials. For details on antimicrobials included in monitoring and ranges see the respective tables.

Cut-off values used in testing

As breakpoints in antimicrobial resistance monitoring were used epidemiological cut-off values recommended by EFSA, EC and European Committee on Antimicrobial Susceptibility Testing (EUCAST), when were available. For details see breakpoints and quantitative tables.

Results of the investigation

The limited number of isolates allowed a limited evaluation of the resistance level in food category only. The overall antimicrobial resistance situation in food is similar to situation in animal. There is now multiresistant serovar *S. Infantis* the most frequent serovar in meat from broilers too.

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

The occurrence of *Salmonella* isolates in Food is sporadically. It is noted a change of *Salmonella* serovars too. May be possible increasing some multiresistant serovars *S. Infantis*, *S. Kentucky*, etc.

Table Antimicrobial susceptibility testing of Salmonella in Pigs

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		S. Agona		Salmonella spp.		Other serovars	
	no				no						no	
	5				4						3	
	N	n	N	n	N	n	N	n	N	n	N	n
Antimicrobials:												
Aminoglycosides - Gentamicin	5	0			4	0					3	0
Aminoglycosides - Kanamycin	5	0			4	0					3	0
Aminoglycosides - Streptomycin	5	4			4	0					3	0
Amphenicols - Chloramphenicol	5	1			4	0					3	0
Amphenicols - Florfenicol	5	1			4	0					3	0
Fluoroquinolones - Ciprofloxacin	5	1			4	1					3	0
Penicillins - Ampicillin	5	4			4	0					3	0
Quinolones - Nalidixic acid	5	1			4	1					3	0
Sulfonamides	5	4			4	0					3	0
Tetracyclines - Tetracycline	5	4			4	1					3	0
Trimethoprim	5	1			4	0					3	0
Fully sensitive	5	1			4	2					3	3
Resistant to 1 antimicrobial	5	0			4	1					3	0
Resistant to 2 antimicrobials	5	0			4	1					3	0
Resistant to 3 antimicrobials	5	0			4	0					3	0
Resistant to 4 antimicrobials	5	2			4	0					3	0
Resistant to >4 antimicrobials	5	2			4	0					3	0
Number of multiresistant S. Typhimurium - with penta resistance	5	1										
Number of multiresistant S. Typhimurium - resistant to other antimicrobials	5	1										

Table Antimicrobial susceptibility testing of Salmonella in Pigs

Salmonella	S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		S. Agona		Salmonella spp.		Other serovars	
Isolates out of a monitoring program (yes/no)	no				no						no	
Number of isolates available in the laboratory	5				4						3	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n
Cephalosporins - Ceftazidim	5	0			4	0					3	0
Polymyxins - Colistin	5	0			4	0					3	0

Footnote:

S. Typhimurium: Fully sensitive - 1 x, ASSuT resistance - 2 x, ASSuTW resistance- 1 x, ACSSuTFNxCp resistance - 1 x.

S. Derby: Fully sensitive - 2 x, T resistance - 1 x, NxCp resistance - 1 x.

Other serovars:

S. Anatum: Fully sensitive - 1 x.

S. Ohio: Fully sensitive - 1 x.

S. Senftenberg: Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of Salmonella in meat from pig

Salmonella	S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		S. Agona		Salmonella spp.		Other serovars	
	Isolates out of a monitoring program (yes/no)		yes								yes	
	Number of isolates available in the laboratory		1								2	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin			1	0							2	0
Aminoglycosides - Kanamycin			1	0							2	0
Aminoglycosides - Streptomycin			1	1							2	0
Amphenicols - Chloramphenicol			1	0							2	0
Amphenicols - Florfenicol			1	0							2	0
Fluoroquinolones - Ciprofloxacin			1	0							2	0
Penicillins - Ampicillin			1	1							2	0
Quinolones - Nalidixic acid			1	0							2	0
Sulfonamides			1	1							2	0
Tetracyclines - Tetracycline			1	1							2	1
Trimethoprim			1	0							2	0
Fully sensitive			1	0							2	1
Resistant to 1 antimicrobial			1	0							2	1
Resistant to 2 antimicrobials			1	0							2	0
Resistant to 3 antimicrobials			1	0							2	0
Resistant to 4 antimicrobials			1	1							2	0
Resistant to >4 antimicrobials			1	0							2	0
Cephalosporins - Ceftazidim			1	0							2	0
Polymyxins - Colistin			1	0							2	0

Table Antimicrobial susceptibility testing of Salmonella in meat from pig

Footnote:

S. 1,4,[5],12:i:- : ASSuT resistance - 1 x.

S. Enteritidis: Fully sensitive 1 x.

S. Rissen – T resistance – 1 x.

Table Antimicrobial susceptibility testing of Salmonella in meat from broilers (Gallus gallus)

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Java		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.		Other serovars	
	yes								yes								yes				yes	
	2								1								10				1	
	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin	2	0							1	0							10	0			1	0
Aminoglycosides - Kanamycin	2	0							1	0							10	0			1	0
Aminoglycosides - Streptomycin	2	0							1	0							10	1			1	0
Amphenicols - Chloramphenicol	2	0							1	0							10	0			1	0
Amphenicols - Florfenicol	2	0							1	0							10	0			1	0
Fluoroquinolones - Ciprofloxacin	2	0							1	0							10	10			1	0
Penicillins - Ampicillin	2	0							1	0							10	0			1	0
Quinolones - Nalidixic acid	2	0							1	0							10	10			1	0
Sulfonamides	2	0							1	0							10	10			1	0
Tetracyclines - Tetracycline	2	0							1	0							10	10			1	0
Trimethoprim	2	0							1	0							10	1			1	0
Fully sensitive	2	2							1	1							10	0			1	1
Resistant to 1 antimicrobial	2	0							1	0							10	0			1	0
Resistant to 2 antimicrobials	2	0							1	0							10	0			1	0
Resistant to 3 antimicrobials	2	0							1	0							10	0			1	0
Resistant to 4 antimicrobials	2	0							1	0							10	8			1	0
Resistant to >4 antimicrobials	2	0							1	0							10	2			1	0
Cephalosporins - Ceftazidim	2	0							1	0							10	0			1	0
Polymyxins - Colistin	2	1							1	0							10	0			1	0

Table Antimicrobial susceptibility testing of Salmonella in meat from broilers (Gallus gallus)

Footnote:

S. Enteritidis: Fully sensitive - 2 x. Note to Colistine: MIC >2 microg/ml – 1 x.

S. Infantis: (S)SuTNxCp resistance - 8 x, SSuTNxCp resistance - 1 x, SuTNxCpW resistance - 1 x. Note to (S): MIC = 32 microg/ml.

S. Agona: Fully sensitive - 1 x.

Other serovars / S. Lille: Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of Salmonella in Turkey

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Agona		S. Kentucky		S. Newport		S. Saintpaul		Salmonella spp.	
	yes								yes		yes					
	1								2		1					
	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin	1	0							2	2	1	0				
Aminoglycosides - Kanamycin	1	0							2	0	1	0				
Aminoglycosides - Streptomycin	1	0							2	0	1	0				
Amphenicols - Chloramphenicol	1	0							2	0	1	0				
Amphenicols - Florfenicol	1	0							2	0	1	0				
Fluoroquinolones - Ciprofloxacin	1	0							2	2	1	1				
Penicillins - Ampicillin	1	0							2	2	1	1				
Quinolones - Nalidixic acid	1	0							2	2	1	1				
Sulfonamides	1	0							2	2	1	0				
Tetracyclines - Tetracycline	1	0							2	2	1	1				
Trimethoprim	1	0							2	0	1	0				
Fully sensitive	1	1							2	0	1	0				
Resistant to 1 antimicrobial	1	0							2	0	1	0				
Resistant to 2 antimicrobials	1	0							2	0	1	0				
Resistant to 3 antimicrobials	1	0							2	0	1	0				
Resistant to 4 antimicrobials	1	0							2	2	1	1				
Resistant to >4 antimicrobials	1	0							2	2	1	0				

Table Antimicrobial susceptibility testing of Salmonella in Turkeys

Footnote:

S. Enteritidis: Fully sensitive - 1 x.

S. Kentucky: A(S)SuTNxCpG resistance - 2 x. Note to (S): MIC = 32 microg/ml.

S. Newport: ATNxCp resistance - 1 x.

Table Antimicrobial susceptibility testing of Salmonella in meat from other poultry species

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.	
	Isolates out of a monitoring program (yes/no)																	
	Number of isolates available in the laboratory																	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin													1	1				
Aminoglycosides - Kanamycin													1	0				
Aminoglycosides - Streptomycin													1	0				
Amphenicols - Chloramphenicol													1	0				
Amphenicols - Florfenicol													1	0				
Fluoroquinolones - Ciprofloxacin													1	1				
Penicillins - Ampicillin													1	1				
Quinolones - Nalidixic acid													1	1				
Sulfonamides													1	1				
Tetracyclines - Tetracycline													1	1				
Trimethoprim													1	0				
Fully sensitive													1	0				
Resistant to 1 antimicrobial													1	0				
Resistant to 2 antimicrobials													1	0				
Resistant to 3 antimicrobials													1	0				
Resistant to 4 antimicrobials													1	0				
Resistant to >4 antimicrobials													1	1				
Cephalosporins - Ceftazidim													1	0				
Polymyxins - Colistin													1	0				

Table Antimicrobial susceptibility testing of Salmonella in meat from other poultry species

Footnote:

Meat from turkey:

S. Kentucky: A(S)SuTNxCpG resistance - 1 x. Note to (S): MIC = 32 microg/ml.

Table Antimicrobial susceptibility testing of Salmonella in Gallus gallus (fowl) - laying hens

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.		S. 4,12:-:1,2	
	Isolates out of a monitoring program (yes/no)														yes				yes	
	Number of isolates available in the laboratory		25												3				1	
	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Antimicrobials:																				
Aminoglycosides - Gentamicin	25	0													3	0			1	0
Aminoglycosides - Kanamycin	25	0													3	0			1	0
Aminoglycosides - Streptomycin	25	0													3	0			1	0
Amphenicols - Chloramphenicol	25	0													3	0			1	0
Amphenicols - Florfenicol	25	0													3	0			1	0
Fluoroquinolones - Ciprofloxacin	25	0													3	3			1	0
Penicillins - Ampicillin	25	0													3	0			1	0
Quinolones - Nalidixic acid	25	0													3	3			1	0
Sulfonamides	25	0													3	3			1	0
Tetracyclines - Tetracycline	25	0													3	3			1	0
Trimethoprim	25	0													3	0			1	0
Fully sensitive	25	25													3	0			1	1
Resistant to 1 antimicrobial	25	0													3	0			1	0
Resistant to 2 antimicrobials	25	0													3	0			1	0
Resistant to 3 antimicrobials	25	0													3	0			1	0
Resistant to 4 antimicrobials	25	0													3	3			1	0
Resistant to >4 antimicrobials	25	0													3	0			1	0
Cephalosporins - Ceftazidim	25	0													3	0			1	0
Polymyxins - Colistin	25	2													3	0			1	0

Table Antimicrobial susceptibility testing of Salmonella in Gallus gallus (fowl) - laying hens

Footnote:

S. Enteritidis: Fully sensitive - 25 x. Note to Colistine: MIC >2 microg/ml – 2 x.

S. Infantis: (S)SuTNxCp resistance - 3 x. Note to (S): MIC = 32 microg/ml.

S. 4,12:-:1,2: Fully sensitive – 1 x.

Table Antimicrobial susceptibility testing of Salmonella in Gallus gallus (fowl) - broilers

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Java		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.		Other serovars	
	yes																yes				yes	
	21																22				12	
	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Antimicrobials:																						
Aminoglycosides - Gentamicin	21	0															22	0			12	0
Aminoglycosides - Kanamycin	21	0															22	0			12	0
Aminoglycosides - Streptomycin	21	0															22	3			12	0
Amphenicols - Chloramphenicol	21	0															22	0			12	0
Amphenicols - Florfenicol	21	0															22	0			12	0
Fluoroquinolones - Ciprofloxacin	21	1															22	19			12	3
Penicillins - Ampicillin	21	0															22	0			12	0
Quinolones - Nalidixic acid	21	1															22	19			12	3
Sulfonamides	21	0															22	19			12	0
Tetracyclines - Tetracycline	21	0															22	19			12	0
Trimethoprim	21	0															22	0			12	0
Fully sensitive	21	20															22	3			12	9
Resistant to 1 antimicrobial	21	0															22	0			12	0
Resistant to 2 antimicrobials	21	1															22	0			12	3
Resistant to 3 antimicrobials	21	0															22	0			12	0
Resistant to 4 antimicrobials	21	0															22	16			12	0
Resistant to >4 antimicrobials	21	0															22	3			12	0
Cephalosporins - Ceftazidim	21	0															22	0			12	0
Polymyxins - Colistin	21	4															22	0			12	0

Table Antimicrobial susceptibility testing of Salmonella in Gallus gallus (fowl) - broilers

Footnote:

S. Enteritidis: Fully sensitive - 20 x, Nx Cp resistance - 1 x. Note to Colistine: MIC >2 microg/ml – 4 x.

S. Infantis: SSuTNx Cp resistance - 3 x; (S)SuTNx Cp resistance - 15 x; SuTNx Cp resistance - 1 x, Fully sensitive - 3 x. Note to (S): MIC = 32 microg/ml.

Other serovars:

S. Havana: Fully sensitive - 1 x.

S. Lille: Fully sensitive - 7 x.

S. Madras: Fully sensitive - 1 x.

S. Newport: Nx Cp resistance - 1 x.

S. 6,8:e,h:- : Nx Cp resistance - 2 x.

Table Antimicrobial susceptibility testing of Salmonella in Gallus gallus (fowl) - breeding flocks, unspecified

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.	
	yes																	
	1																	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin	1	0																
Aminoglycosides - Kanamycin	1	0																
Aminoglycosides - Streptomycin	1	0																
Amphenicols - Chloramphenicol	1	0																
Amphenicols - Florfenicol	1	0																
Cephalosporins - Cefotaxime	1	0																
Fluoroquinolones - Ciprofloxacin	1	0																
Penicillins - Ampicillin	1	0																
Quinolones - Nalidixic acid	1	0																
Sulfonamides	1	0																
Tetracyclines - Tetracycline	1	0																
Trimethoprim	1	0																
Cephalosporins - Ceftazidim	1	0																
Fully sensitive	1	1																
Polymyxins - Colistin	1	0																
Resistant to 1 antimicrobial	1	0																
Resistant to 2 antimicrobials	1	0																
Resistant to 3 antimicrobials	1	0																
Resistant to 4 antimicrobials	1	0																

Table Antimicrobial susceptibility testing of Salmonella in Gallus gallus (fowl) - breeding flocks, unspecified

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.	
Isolates out of a monitoring program (yes/no)	yes																	
Number of isolates available in the laboratory	1																	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Resistant to >4 antimicrobials	1	0																

Footnote:

S. Enteritidis: Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. Stanley in Pet food - dog snacks (pig ears, chewing bones) - at border control - Surveillance - quantitative data [Dilution method]

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

S. Stanley	Pet food - dog snacks (pig ears, chewing bones) - at border control - Surveillance																											
	no																											
	1																											
	Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0														1											
Amphenicols - Chloramphenicol	16	1	0													1												
Amphenicols - Florfenicol	16	1	0													1												
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1																
Penicillins - Ampicillin	4	1	0												1													
Quinolones - Nalidixic acid	16	1	1																		1							
Sulfonamides	256	1	0																	1								
Tetracyclines - Tetracycline	8	1	0											1														
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0									1																
Polymyxins - Colistin	2	1	0												1													

Table Antimicrobial susceptibility testing of S. Stanley in Pet food - dog snacks (pig ears, chewing bones) - at border control - Surveillance - quantitative data [Dilution method]

S. Stanley	Pet food - dog snacks (pig ears, chewing bones) - at border control - Surveillance	
	no	
	1	
	lowest	highest
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory		
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Stanley: NxCP resistance - 1 x.

Table Antimicrobial susceptibility testing of S. Enteritidis in Meat from broilers (Gallus gallus) - in total - Surveillance - quantitative data [Dilution method]

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

S. Enteritidis	Meat from broilers (Gallus gallus) - in total - Surveillance																											
	yes																											
	2																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	2	0									1	1															
Aminoglycosides - Kanamycin	8	2	0													2												
Aminoglycosides - Streptomycin	32	2	0												1	1												
Amphenicols - Chloramphenicol	16	2	0													2												
Amphenicols - Florfenicol	16	2	0													2												
Cephalosporins - Cefotaxime	0.5	2	0							1	1																	
Fluoroquinolones - Ciprofloxacin	0.06	2	0						2																			
Penicillins - Ampicillin	4	2	0												2													
Quinolones - Nalidixic acid	16	2	0													2												
Sulfonamides	256	2	0																1	1								
Tetracyclines - Tetracycline	8	2	0											2														
Trimethoprim	2	2	0										2															
Cephalosporins - Ceftazidim	2	2	0									2																
Polymyxins - Colistin	2	2	1												1	1												

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Meat from broilers (*Gallus gallus*) - in total - Surveillance - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - in total - Surveillance	
	yes	
	2	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Enteritidis: Fully sensitive - 2 x. Note to Colistine: MIC >2 microg/ml – 1 x.

Table Antimicrobial susceptibility testing of S. Infantis in Meat from broilers (Gallus gallus) - in total - Surveillance - quantitative data [Dilution method]

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

S. Infantis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory			Meat from broilers (Gallus gallus) - in total - Surveillance																									
			yes																									
			10																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	10	0									7	3															
Aminoglycosides - Kanamycin	8	10	0													10												
Aminoglycosides - Streptomycin	32	10	1															1	8	1								
Amphenicols - Chloramphenicol	16	10	0													1	8	1										
Amphenicols - Florfenicol	16	10	0													1	9											
Cephalosporins - Cefotaxime	0.5	10	0								2	8																
Fluoroquinolones - Ciprofloxacin	0.06	10	10										5	5														
Penicillins - Ampicillin	4	10	0												3	7												
Quinolones - Nalidixic acid	16	10	10																		10							
Sulfonamides	256	10	10																							10		
Tetracyclines - Tetracycline	8	10	10																		10							
Trimethoprim	2	10	1										9							1								
Cephalosporins - Ceftazidim	2	10	0										7	3														
Polymyxins - Colistin	2	10	0												10													

Table Antimicrobial susceptibility testing of *S. Infantis* in Meat from broilers (*Gallus gallus*) - in total - Surveillance - quantitative data [Dilution method]

S. Infantis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - in total - Surveillance	
	yes	
	10	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Infantis: (S)SuTNxCp resistance - 8 x, SSuTNxCp resistance - 1 x, SuTNxCpW resistance - 1 x. Note to (S): MIC = 32 microg/ml.

Table Antimicrobial susceptibility testing of S. Agona in Meat from broilers (Gallus gallus) - at processing plant - Surveillance - quantitative data
[Dilution method]

S. Agona Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Meat from broilers (Gallus gallus) - at processing plant - Surveillance																											
		yes																											
		1																											
		Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Antimicrobials:	2	1	0								1																		
Aminoglycosides - Gentamicin	8	1	0												1														
Aminoglycosides - Kanamycin	32	1	0													1													
Aminoglycosides - Streptomycin	16	1	0												1														
Amphenicols - Chloramphenicol	16	1	0												1														
Amphenicols - Florfenicol	0.5	1	0							1																			
Cephalosporins - Cefotaxime	0.06	1	0				1																						
Fluoroquinolones - Ciprofloxacin	4	1	0										1																
Penicillins - Ampicillin	16	1	0												1														
Quinolones - Nalidixic acid																1													
Sulfonamides	256	1	0																1										
Tetracyclines - Tetracycline	8	1	0											1															
Trimethoprim	2	1	0									1																	
Cephalosporins - Ceftazidim	2	1	0									1																	
Polymyxins - Colistin	2	1	0											1															

Table Antimicrobial susceptibility testing of *S. Agona* in Meat from broilers (*Gallus gallus*) - at processing plant - Surveillance - quantitative data
[Dilution method]

S. Agona Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from broilers (<i>Gallus gallus</i>) - at processing plant - Surveillance	
	yes	
	1	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Agona: Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. Kentucky in Meat from turkey - at slaughterhouse - Surveillance - quantitative data [Dilution method]

S. Kentucky Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Meat from turkey - at slaughterhouse - Surveillance																											
		yes																											
		1																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048			
Aminoglycosides - Gentamicin	2	1	1															1											
Aminoglycosides - Kanamycin	8	1	0													1													
Aminoglycosides - Streptomycin	32	1	0																1										
Amphenicols - Chloramphenicol	16	1	0													1													
Amphenicols - Florfenicol	16	1	0													1													
Cephalosporins - Cefotaxime	0.5	1	0								1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	1														1												
Penicillins - Ampicillin	4	1	1																	1									
Quinolones - Nalidixic acid	16	1	1																		1								
Sulfonamides	256	1	1																							1			
Tetracyclines - Tetracycline	8	1	1																		1								
Trimethoprim	2	1	0										1																
Cephalosporins - Ceftazidim	2	1	0											1															
Polymyxins - Colistin	2	1	0												1														

Table Antimicrobial susceptibility testing of *S. Kentucky* in Meat from turkey - at slaughterhouse - Surveillance - quantitative data [Dilution method]

S. Kentucky Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from turkey - at slaughterhouse - Surveillance	
	yes	
	1	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Kentucky: A(S)SuTNxCpG resistance - 1 x. Note to (S): MIC = 32 microg/ml.

Table Antimicrobial susceptibility testing of S. 1,4,[5],12:i:- in Meat from pig - at retail - Surveillance - quantitative data [Dilution method]

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

S. 1,4,[5],12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from pig - at retail - Surveillance																											
	yes																											
	1																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0									1																
Aminoglycosides - Kanamycin	8	1	0												1													
Aminoglycosides - Streptomycin	32	1	1																		1							
Amphenicols - Chloramphenicol	16	1	0												1													
Amphenicols - Florfenicol	16	1	0												1													
Cephalosporins - Cefotaxime	0.5	1	0						1																			
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																					
Penicillins - Ampicillin	4	1	1																1									
Quinolones - Nalidixic acid	16	1	0												1													
Sulfonamides	256	1	1																							1		
Tetracyclines - Tetracycline	8	1	1																		1							
Trimethoprim	2	1	0									1																
Cephalosporins - Ceftazidim	2	1	0								1																	
Polymyxins - Colistin	2	1	0												1													

Table Antimicrobial susceptibility testing of S. 1,4,[5],12:i:- in Meat from pig - at retail - Surveillance - quantitative data [Dilution method]

S. 1,4,[5],12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from pig - at retail - Surveillance	
	yes	
	1	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. 1,4,[5],12:i:- : ASSuT resistance - 1 x.

Table Antimicrobial susceptibility testing of Other serovars in Meat from pig - in total - Surveillance - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
Other serovars	Meat from pig - in total - Surveillance																										
	yes																										
	2																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Antimicrobials:																											
Aminoglycosides - Gentamicin	2	2	0											1	1												
Aminoglycosides - Kanamycin	8	2	0													2											
Aminoglycosides - Streptomycin	32	2	0													1	1										
Amphenicols - Chloramphenicol	16	2	0													2											
Amphenicols - Florfenicol	16	2	0													2											
Cephalosporins - Cefotaxime	0.5	2	0								2																
Fluoroquinolones - Ciprofloxacin	0.06	2	0				1		1																		
Penicillins - Ampicillin	4	2	0												2												
Quinolones - Nalidixic acid	16	2	0													2											
Sulfonamides	256	2	0																1	1							
Tetracyclines - Tetracycline	8	2	1												1						1						
Trimethoprim	2	2	0										2														
Cephalosporins - Ceftazidim	2	2	0									2															
Polymyxins - Colistin	2	2	0												2												

Table Antimicrobial susceptibility testing of Other serovars in Meat from pig - in total - Surveillance - quantitative data [Dilution method]

Other serovars Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from pig - in total - Surveillance	
	yes	
	2	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Enteritidis: Fully sensitive - 1 x;

S. Rissen: T resistance – 1 x.

Table Antimicrobial susceptibility testing of Other serovars in Meat from broilers (Gallus gallus) - at retail - Surveillance - quantitative data
[Dilution method]

Other serovars Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Meat from broilers (Gallus gallus) - at retail - Surveillance																											
		yes																											
		1																											
Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048				
Aminoglycosides - Gentamicin	2	1	0										1																
Aminoglycosides - Kanamycin	8	1	0												1														
Aminoglycosides - Streptomycin	32	1	0													1													
Amphenicols - Chloramphenicol	16	1	0												1														
Amphenicols - Florfenicol	16	1	0												1														
Cephalosporins - Cefotaxime	0.5	1	0							1																			
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																						
Penicillins - Ampicillin	4	1	0										1																
Quinolones - Nalidixic acid	16	1	0												1														
Sulfonamides	256	1	0																1										
Tetracyclines - Tetracycline	8	1	0											1															
Trimethoprim	2	1	0									1																	
Cephalosporins - Ceftazidim	2	1	0									1																	
Polymyxins - Colistin	2	1	0											1															

Table Antimicrobial susceptibility testing of Other serovars in Meat from broilers (Gallus gallus) - at retail - Surveillance - quantitative data
[Dilution method]

Other serovars	Meat from broilers (Gallus gallus) - at retail - Surveillance	
	Isolates out of a monitoring program (yes/no)	
	yes	
	Number of isolates available in the laboratory	
Antimicrobials:	1	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Lille: Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - parent breeding flocks for broiler production line - at farm - Monitoring - quantitative data [Dilution method]

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

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory				Gallus gallus (fowl) - parent breeding flocks for broiler production line - at farm - Monitoring																											
				yes																											
				1																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048					
Aminoglycosides - Gentamicin	2	1	0										1																		
Aminoglycosides - Kanamycin	8	1	0													1															
Aminoglycosides - Streptomycin	32	1	0													1															
Amphenicols - Chloramphenicol	16	1	0													1															
Amphenicols - Florfenicol	16	1	0													1															
Cephalosporins - Cefotaxime	0.5	1	0							1																					
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																						
Penicillins - Ampicillin	4	1	0												1																
Quinolones - Nalidixic acid	16	1	0													1															
Sulfonamides	256	1	0																	1											
Tetracyclines - Tetracycline	8	1	0											1																	
Trimethoprim	2	1	0										1																		
Cephalosporins - Ceftazidim	2	1	0									1																			
Polymyxins - Colistin	2	1	0												1																

Table Antimicrobial susceptibility testing of *S. Enteritidis* in *Gallus gallus* (fowl) - parent breeding flocks for broiler production line - at farm - Monitoring - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - parent breeding flocks for broiler production line - at farm - Monitoring	
	yes	
	1	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Enteritidis: Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - laying hens - at farm - Monitoring - quantitative data [Dilution method]

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

S. Enteritidis	Gallus gallus (fowl) - laying hens - at farm - Monitoring																											
	yes																											
	25																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	25	0									18	7															
Aminoglycosides - Kanamycin	8	25	0													25												
Aminoglycosides - Streptomycin	32	25	0												12	12	1											
Amphenicols - Chloramphenicol	16	25	0													23	2											
Amphenicols - Florfenicol	16	25	0													25												
Cephalosporins - Cefotaxime	0.5	25	0							16	9																	
Fluoroquinolones - Ciprofloxacin	0.06	25	0				7		18																			
Penicillins - Ampicillin	4	25	0											7	18													
Quinolones - Nalidixic acid	16	25	0													24	1											
Sulfonamides	256	25	0														1	4	18	2								
Tetracyclines - Tetracycline	8	25	0											21	4													
Trimethoprim	2	25	0										25															
Cephalosporins - Ceftazidim	2	25	0									25																
Polymyxins - Colistin	2	25	2												23	2												

Table Antimicrobial susceptibility testing of *S. Enteritidis* in *Gallus gallus* (fowl) - laying hens - at farm - Monitoring - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - laying hens - at farm - Monitoring	
	yes	
	25	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Enteritidis: Fully sensitive - 25 x. Note to Colistine: MIC >2 microg/ml – 2 x.

Table Antimicrobial susceptibility testing of S. 4,12:-:1,2 in Gallus gallus (fowl) - laying hens - at farm - Monitoring - quantitative data [Dilution method]

S. 4,12:-:1,2 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Gallus gallus (fowl) - laying hens - at farm - Monitoring																											
		yes																											
		1																											
		Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Antimicrobials:	2	1	0									1																	
Aminoglycosides - Gentamicin	8	1	0													1													
Aminoglycosides - Kanamycin	32	1	0															1											
Aminoglycosides - Streptomycin	16	1	0													1													
Amphenicols - Chloramphenicol	16	1	0													1													
Amphenicols - Florfenicol	0.5	1	0							1																			
Cephalosporins - Cefotaxime	0.06	1	0						1																				
Fluoroquinolones - Ciprofloxacin	4	1	0												1														
Penicillins - Ampicillin	16	1	0													1													
Quinolones - Nalidixic acid	256	1	0															1											
Sulfonamides	8	1	0												1														
Tetracyclines - Tetracycline	2	1	0									1																	
Trimethoprim	2	1	0										1																
Cephalosporins - Ceftazidim	2	1	0									1																	
Polymyxins - Colistin	2	1	0												1														

Table Antimicrobial susceptibility testing of S. 4,12:-:1,2 in Gallus gallus (fowl) - laying hens - at farm - Monitoring - quantitative data [Dilution method]

S. 4,12:-:1,2 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - laying hens - at farm - Monitoring	
	yes	
	1	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. 4,12:-:1,2: Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. Infantis in Gallus gallus (fowl) - laying hens - at farm - Monitoring - quantitative data [Dilution method]

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

S. Infantis	Gallus gallus (fowl) - laying hens - at farm - Monitoring																											
	yes																											
	3																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	3	0									1	2															
Aminoglycosides - Kanamycin	8	3	0													3												
Aminoglycosides - Streptomycin	32	3	0																3									
Amphenicols - Chloramphenicol	16	3	0														3											
Amphenicols - Florfenicol	16	3	0														3											
Cephalosporins - Cefotaxime	0.5	3	0								1	2																
Fluoroquinolones - Ciprofloxacin	0.06	3	3										1	2														
Penicillins - Ampicillin	4	3	0												1	2												
Quinolones - Nalidixic acid	16	3	3																		3							
Sulfonamides	256	3	3																							3		
Tetracyclines - Tetracycline	8	3	3																		3							
Trimethoprim	2	3	0										3															
Cephalosporins - Ceftazidim	2	3	0										2	1														
Polymyxins - Colistin	2	3	0												3													

Table Antimicrobial susceptibility testing of *S. Infantis* in Gallus gallus (fowl) - laying hens - at farm - Monitoring - quantitative data [Dilution method]

S. Infantis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - laying hens - at farm - Monitoring	
	yes	
	3	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Infantis: (S)SuTNxCp resistance - 3 x.

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - broilers - at farm - Monitoring - quantitative data [Dilution method]

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

S. Enteritidis	Gallus gallus (fowl) - broilers - at farm - Monitoring																											
	yes																											
	21																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	21	0									8	13															
Aminoglycosides - Kanamycin	8	21	0													21												
Aminoglycosides - Streptomycin	32	21	0												6	14	1											
Amphenicols - Chloramphenicol	16	21	0													20	1											
Amphenicols - Florfenicol	16	21	0													21												
Cephalosporins - Cefotaxime	0.5	21	0							5	15	1																
Fluoroquinolones - Ciprofloxacin	0.06	21	1				2		18			1																
Penicillins - Ampicillin	4	21	0											21														
Quinolones - Nalidixic acid	16	21	1													20					1							
Sulfonamides	256	21	0																3	18								
Tetracyclines - Tetracycline	8	21	0											18	3													
Trimethoprim	2	21	0										21															
Cephalosporins - Ceftazidim	2	21	0									19	2															
Polymyxins - Colistin	2	21	4												17	4												

Table Antimicrobial susceptibility testing of *S. Enteritidis* in *Gallus gallus* (fowl) - broilers - at farm - Monitoring - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - at farm - Monitoring	
	yes	
	21	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Enteritidis: Fully sensitive - 20 x, Nx Cp resistance - 1 x. Note to Colistine: MIC >2 microg/ml – 4 x.

Table Antimicrobial susceptibility testing of S. Infantis in Gallus gallus (fowl) - broilers - at farm - Monitoring - quantitative data [Dilution method]

S. Infantis		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Gallus gallus (fowl) - broilers - at farm - Monitoring																											
		yes																											
		22																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048			
Aminoglycosides - Gentamicin	2	22	0									15	6	1															
Aminoglycosides - Kanamycin	8	22	0													22													
Aminoglycosides - Streptomycin	32	22	3														4		15	2	1								
Amphenicols - Chloramphenicol	16	22	0													11	11												
Amphenicols - Florfenicol	16	22	0													14	8												
Cephalosporins - Cefotaxime	0.5	22	0								14	8																	
Fluoroquinolones - Ciprofloxacin	0.06	22	19				1		2			3	11	5															
Penicillins - Ampicillin	4	22	0											6	13	3													
Quinolones - Nalidixic acid	16	22	19													3					19								
Sulfonamides	256	22	19															2	1								19		
Tetracyclines - Tetracycline	8	22	19												3						19								
Trimethoprim	2	22	0										22																
Cephalosporins - Ceftazidim	2	22	0									3	17	2															
Polymyxins - Colistin	2	22	0												22														

Table Antimicrobial susceptibility testing of *S. Infantis* in *Gallus gallus* (fowl) - broilers - at farm - Monitoring - quantitative data [Dilution method]

S. Infantis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - at farm - Monitoring	
	yes	
	22	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Infantis: SSuTNxCp resistance - 3 x; (S)SuTNxCp resistance - 15 x; SuTNxCp resistance - 1 x, Fully sensitive - 3 x. Note to (S): MIC = 32 microg/ml.

Table Antimicrobial susceptibility testing of S. Kentucky in Turkeys - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

S. Kentucky Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Turkeys - meat production flocks - at farm - Monitoring																											
		yes																											
		2																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048			
Aminoglycosides - Gentamicin	2	2	2															1	1										
Aminoglycosides - Kanamycin	8	2	0													2													
Aminoglycosides - Streptomycin	32	2	0																2										
Amphenicols - Chloramphenicol	16	2	0													2													
Amphenicols - Florfenicol	16	2	0													2													
Cephalosporins - Cefotaxime	0.5	2	0								2																		
Fluoroquinolones - Ciprofloxacin	0.06	2	2															2											
Penicillins - Ampicillin	4	2	2																	2									
Quinolones - Nalidixic acid	16	2	2																		2								
Sulfonamides	256	2	2																							2			
Tetracyclines - Tetracycline	8	2	2																		2								
Trimethoprim	2	2	0										2																
Cephalosporins - Ceftazidim	2	2	0											2															
Polymyxins - Colistin	2	2	0												2														

Table Antimicrobial susceptibility testing of S. Kentucky in Turkeys - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

S. Kentucky	Turkeys - meat production flocks - at farm - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
Antimicrobials:	Number of isolates available in the laboratory	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Kentucky: A(S)SuTNxCpG resistance - 2 x. Note to (S): MIC = 32 microg/ml.

Table Antimicrobial susceptibility testing of S. Enteritidis in Turkeys - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

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

S. Enteritidis	Turkeys - meat production flocks - at farm - Monitoring																											
	yes																											
	1																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0									1																
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0													1												
Amphenicols - Chloramphenicol	16	1	0													1												
Amphenicols - Florfenicol	16	1	0													1												
Cephalosporins - Cefotaxime	0.5	1	0								1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																			
Penicillins - Ampicillin	4	1	0												1													
Quinolones - Nalidixic acid	16	1	0													1												
Sulfonamides	256	1	0																1									
Tetracyclines - Tetracycline	8	1	0											1														
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0									1																
Polymyxins - Colistin	2	1	0												1													

Table Antimicrobial susceptibility testing of S. Enteritidis in Turkeys - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

S. Enteritidis	Turkeys - meat production flocks - at farm - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
	Number of isolates available in the laboratory	
Antimicrobials:	1	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	4	64
Amphenicols - Florfenicol	4	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	65
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Enteritidis: Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. Newport in Turkeys - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

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

S. Newport	Turkeys - meat production flocks - at farm - Monitoring																											
	Isolates out of a monitoring program (yes/no)																											
	yes																											
	Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0									1																
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0													1												
Amphenicols - Chloramphenicol	16	1	0													1												
Amphenicols - Florfenicol	16	1	0													1												
Cephalosporins - Cefotaxime	0.5	1	0									1																
Fluoroquinolones - Ciprofloxacin	0.06	1	1										1															
Penicillins - Ampicillin	4	1	1																	1								
Quinolones - Nalidixic acid	16	1	1																		1							
Sulfonamides	256	1	0																	1								
Tetracyclines - Tetracycline	8	1	1																		1							
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0										1															
Polymyxins - Colistin	2	1	0												1													

Table Antimicrobial susceptibility testing of *S. Newport* in Turkeys - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

S. Newport Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Turkeys - meat production flocks - at farm - Monitoring	
	yes	
	1	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	4	64
Amphenicols - Florfenicol	4	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Newport: ATNx Cp resistance - 1 x.

Table Antimicrobial susceptibility testing of S. Typhimurium in Geese - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

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

S. Typhimurium	Geese - meat production flocks - at farm - Monitoring																											
	yes																											
	1																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0														1											
Amphenicols - Chloramphenicol	16	1	0													1												
Amphenicols - Florfenicol	16	1	0												1													
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																			
Penicillins - Ampicillin	4	1	0												1													
Quinolones - Nalidixic acid	16	1	0													1												
Sulfonamides	256	1	0																1									
Tetracyclines - Tetracycline	8	1	0											1														
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0									1																
Polymyxins - Colistin	2	1	0												1													

Table Antimicrobial susceptibility testing of S. Typhimurium in Geese - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

S. Typhimurium	Geese - meat production flocks - at farm - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
Antimicrobials:	Number of isolates available in the laboratory	
	1	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	4
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Typhimurium: Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. Newport in Geese - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

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

S. Newport	Geese - meat production flocks - at farm - Monitoring																											
	yes																											
	1																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0												1													
Aminoglycosides - Streptomycin	32	1	0													1												
Amphenicols - Chloramphenicol	16	1	0											1														
Amphenicols - Florfenicol	16	1	0											1														
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	1								1																	
Penicillins - Ampicillin	4	1	0										1															
Quinolones - Nalidixic acid	16	1	1																	1								
Sulfonamides	256	1	0															1										
Tetracyclines - Tetracycline	8	1	0										1															
Trimethoprim	2	1	0									1																
Cephalosporins - Ceftazidim	2	1	0								1																	
Polymyxins - Colistin	2	1	0											1														

Table Antimicrobial susceptibility testing of *S. Newport* in Geese - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

S. Newport Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Geese - meat production flocks - at farm - Monitoring	
	yes	
	1	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Newport: Nx Cp resistance - 1 x.

Table Antimicrobial susceptibility testing of S. Typhimurium in Ducks - meat production flocks - at farm - Clinical investigations - quantitative data [Dilution method]

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

S. Typhimurium	Ducks - meat production flocks - at farm - Clinical investigations																											
	no																											
	1																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0									1																
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0														1											
Amphenicols - Chloramphenicol	16	1	0													1												
Amphenicols - Florfenicol	16	1	0													1												
Cephalosporins - Cefotaxime	0.5	1	0								1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																			
Penicillins - Ampicillin	4	1	0												1													
Quinolones - Nalidixic acid	16	1	0													1												
Sulfonamides	256	1	0																1									
Tetracyclines - Tetracycline	8	1	0												1													
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0										1															
Polymyxins - Colistin	2	1	0												1													

Table Antimicrobial susceptibility testing of S. Typhimurium in Ducks - meat production flocks - at farm - Clinical investigations - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Ducks - meat production flocks - at farm - Clinical investigations	
	no	
	1	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	4	64
Amphenicols - Florfenicol	4	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Typhimurium: Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. Kottbus in Ducks - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

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

S. Kottbus Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory			Ducks - meat production flocks - at farm - Monitoring																									
			yes																									
			1																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0									1																
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0														1											
Amphenicols - Chloramphenicol	16	1	0												1													
Amphenicols - Florfenicol	16	1	0												1													
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1																
Penicillins - Ampicillin	4	1	0											1														
Quinolones - Nalidixic acid	16	1	1																		1							
Sulfonamides	256	1	0																1									
Tetracyclines - Tetracycline	8	1	0											1														
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0									1																
Polymyxins - Colistin	2	1	0												1													

Table Antimicrobial susceptibility testing of *S. Kottbus* in Ducks - meat production flocks - at farm - Monitoring - quantitative data [Dilution method]

S. Kottbus Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Ducks - meat production flocks - at farm - Monitoring	
	yes	
	1	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	4	64
Amphenicols - Florfenicol	4	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Kottbus: Nx Cp resistance 1 x.

Table Antimicrobial susceptibility testing of S. Typhimurium in Pigs - mixed herds - in total - Clinical investigations - quantitative data [Dilution method]

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

S. Typhimurium	Pigs - mixed herds - in total - Clinical investigations																										
	no																										
	5																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	5	0										4	1													
Aminoglycosides - Kanamycin	8	5	0													5											
Aminoglycosides - Streptomycin	32	5	4														1			1	1	2					
Amphenicols - Chloramphenicol	16	5	1													4				1							
Amphenicols - Florfenicol	16	5	1													4			1								
Cephalosporins - Cefotaxime	0.5	5	0							4	1																
Fluoroquinolones - Ciprofloxacin	0.06	5	1				1		3				1														
Penicillins - Ampicillin	4	5	4												1					4							
Quinolones - Nalidixic acid	16	5	1													3	1				1						
Sulfonamides	256	5	4																	1						4	
Tetracyclines - Tetracycline	8	5	4												1						4						
Trimethoprim	2	5	1										4							1							
Cephalosporins - Ceftazidim	2	5	0									4	1														
Polymyxins - Colistin	2	5	0												5												

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Pigs - mixed herds - in total - Clinical investigations - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - mixed herds - in total - Clinical investigations	
	no	
	5	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Typhimurium: Fully sensitive - 1 x, ASSuT resistance - 2 x, ASSuTW resistance- 1 x, ACSSuTFNxCp resistance - 1 x.

Table Antimicrobial susceptibility testing of S. Derby in Pigs - mixed herds - in total - Clinical investigations - quantitative data [Dilution method]

S. Derby Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Pigs - mixed herds - in total - Clinical investigations																											
		no																											
		4																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048			
Aminoglycosides - Gentamicin	2	4	0									1	2	1															
Aminoglycosides - Kanamycin	8	4	0													4													
Aminoglycosides - Streptomycin	32	4	0														3	1											
Amphenicols - Chloramphenicol	16	4	0													2	2												
Amphenicols - Florfenicol	16	4	0													3	1												
Cephalosporins - Cefotaxime	0.5	4	0								4																		
Fluoroquinolones - Ciprofloxacin	0.06	4	1				1		2			1																	
Penicillins - Ampicillin	4	4	0											2	2														
Quinolones - Nalidixic acid	16	4	1													3					1								
Sulfonamides	256	4	0																3	1									
Tetracyclines - Tetracycline	8	4	1											2	1						1								
Trimethoprim	2	4	0										4																
Cephalosporins - Ceftazidim	2	4	0										4																
Polymyxins - Colistin	2	4	0												4														

Table Antimicrobial susceptibility testing of S. Derby in Pigs - mixed herds - in total - Clinical investigations - quantitative data [Dilution method]

S. Derby	Pigs - mixed herds - in total - Clinical investigations	
	Isolates out of a monitoring program (yes/no)	
	no	
Antimicrobials:	Number of isolates available in the laboratory	
	4	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

S. Derby: Fully sensitive - 2 x, T resistance - 1 x, Nx Cp resistance - 1 x.

Table Antimicrobial susceptibility testing of Other serovars in Gallus gallus (fowl) - broilers - at farm - Monitoring - quantitative data [Dilution method]

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

Other serovars	Gallus gallus (fowl) - broilers - at farm - Monitoring																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	12	0									5	4	3														
Aminoglycosides - Kanamycin	8	12	0													12												
Aminoglycosides - Streptomycin	32	12	0													2	8	2										
Amphenicols - Chloramphenicol	16	12	0												3	6	3											
Amphenicols - Florfenicol	16	12	0												3	9												
Cephalosporins - Cefotaxime	0.5	12	0							3	9																	
Fluoroquinolones - Ciprofloxacin	0.06	12	3				7		2			2		1														
Penicillins - Ampicillin	4	12	0											9	3													
Quinolones - Nalidixic acid	16	12	3													9					3							
Sulfonamides	256	12	0															1	4	6	1							
Tetracyclines - Tetracycline	8	12	0											4	8													
Trimethoprim	2	12	0										12															
Cephalosporins - Ceftazidim	2	12	0									3	9															
Polymyxins - Colistin	2	12	0												12													

Table Antimicrobial susceptibility testing of Other serovars in Gallus gallus (fowl) - broilers - at farm - Monitoring - quantitative data [Dilution method]

Other serovars	Gallus gallus (fowl) - broilers - at farm - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
	Number of isolates available in the laboratory	
Antimicrobials:	12	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1028
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

Other serovars:

- S. Havana: Fully sensitive - 1 x.
- S. Lille: Fully sensitive - 7 x.
- S. Madras: Fully sensitive - 1 x.
- S. Newport: Nx Cp resistance - 1 x.
- S. 6,8:e,h:- : Nx Cp resistance - 2 x.

Table Antimicrobial susceptibility testing of Other serovars in Gallus gallus (fowl) - broilers - at farm - Monitoring - quantitative data [Dilution method]

Table Antimicrobial susceptibility testing of Other serovars in Pigs - mixed herds - in total - Clinical investigations - quantitative data [Dilution method]

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

Other serovars	Pigs - mixed herds - in total - Clinical investigations																											
	no																											
	3																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	3	0									1	2															
Aminoglycosides - Kanamycin	8	3	0													3												
Aminoglycosides - Streptomycin	32	3	0													1	2											
Amphenicols - Chloramphenicol	16	3	0													1	2											
Amphenicols - Florfenicol	16	3	0													3												
Cephalosporins - Cefotaxime	0.5	3	0								3																	
Fluoroquinolones - Ciprofloxacin	0.06	3	0				1		2																			
Penicillins - Ampicillin	4	3	0											2	1													
Quinolones - Nalidixic acid	16	3	0													3												
Sulfonamides	256	3	0																1	1	1							
Tetracyclines - Tetracycline	8	3	0											2	1													
Trimethoprim	2	3	0										3															
Cephalosporins - Ceftazidim	2	3	0									2	1															
Polymyxins - Colistin	2	3	0												3													

Table Antimicrobial susceptibility testing of Other serovars in Pigs - mixed herds - in total - Clinical investigations - quantitative data [Dilution method]

Other serovars	Pigs - mixed herds - in total - Clinical investigations	
	Isolates out of a monitoring program (yes/no)	
	no	
Antimicrobials:	Number of isolates available in the laboratory	
	3	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Sulfonamides	8	1024
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4

Footnote:

Other serovars:

S. Anatum: Fully sensitive - 1 x.

S. Ohio: Fully sensitive - 1 x.

S. Senftenberg: Fully sensitive - 1 x.

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

Test Method Used		Standard methods used for testing		
Broth dilution		NCCLS/CLSI ISO WHO/GSS/GFN EUCAST		

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Polymyxins	Colistin		2	

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

Test Method Used		Standard methods used for testing		
Broth dilution		NCCLS/CLSI WHO/GSS/GFN EUCAST ISO		

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Polymyxins	Colistin		2	

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

Test Method Used		Standard methods used for testing		
Broth dilution		NCCLS/CLSI EUCAST ISO WHO/GSS/GFN		

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Polymyxins	Colistin		2	

2.2 CAMPYLOBACTERIOSIS

2.2.1 General evaluation of the national situation

A. Thermophilic Campylobacter general evaluation

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

All obtained data were collected from the State Veterinary and Food Institutes, the State Veterinary Institute, Public Health Authorities in Slovakia. The samples were tested in accordance with a standardized international method for Campylobacter presence (STN EN ISO 10272-1).

In case of a positive finding the isolates were species identified by methods of molecular biology. Samples of foodstuffs were taken at all stages of food chain.

The most investigated categories in foodstuffs were processed ready-to-eat food and dishes and sandwiches, poultry and pork meat and products. In 1 sample of fresh broiler meat was detected *C. coli* and *C. jejuni* in 1 sample of beef meat preparation.

All results in tables.

In animals most samples investigated was derived from cattle, dogs and cats. Totally 60 samples were positive for Campylobacter (10%), 27x pigs, 13 cattle, 13 x dogs, 4x cats, 3x sheeps. Increasing trend was confirmed.

All results in tables.

Recent actions taken to control the zoonoses

Samples of foodstuffs are taken and investigated according multi-annual plan of official controls. Samples in animals are tested in case of suspicion and clinical symptoms.

2.2.2 Campylobacter in foodstuffs

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
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Domestic	Batch	25 g	1	0		
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Single	25 g	5	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Single	25 g	10	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	6	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	3	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Domestic	Batch	25 g	4	0		

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
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Single	25 g	2	0		
Eggs - table eggs - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	31	0		
Fishery products, unspecified - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	1		1
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	49	0		
Meat from pig - meat products - cooked ham - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	5	0		
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	10	0		
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	24	0		
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	4	0		
Other processed food products and prepared dishes - sandwiches - with meat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	35	0		
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	5	0		

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
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	18	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	8	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	5	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	5	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	53	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	20	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	119	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	94	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	162	0		

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
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	57	0		
Soups - ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Vegetables - non-pre-cut - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	3	0		
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Vegetables - pre-cut - ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified								
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance											
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at retail - Surveillance											
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 raw or low heat-treated milk - at processing plant - Surveillance											

Table Campylobacter in other food

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
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 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 retail - Surveillance			
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance			
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - Surveillance			
Eggs - table eggs - at retail - Surveillance			
Fishery products, unspecified - ready-to-eat - at catering - Monitoring			
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Monitoring			
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Monitoring			
Meat from pig - meat products - cooked ham - at catering - Surveillance			
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance			

Table Campylobacter in other food

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance			
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance			
Other processed food products and prepared dishes - sandwiches - with meat - at catering - Monitoring			
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring			
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance			
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance			

Table Campylobacter in other food

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Surveillance			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance			
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance			
Soups - ready-to-eat - at catering - Surveillance			
Vegetables - non-pre-cut - at retail - Surveillance			
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring			
Vegetables - pre-cut - ready-to-eat - at catering - Surveillance			

Table Campylobacter in poultry meat

	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 broilers (Gallus gallus) - fresh - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample > meat		Single	25 g	14	1	1	
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Suspect sampling	Official sampling	food sample	Domestic	Single	25 g	1	0		
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	5	0		
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	58	0		
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	13	0		

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance			
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring			
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring			

Table Campylobacter in poultry meat

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring			
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance			

2.2.3 Campylobacter in animals

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
Dogs	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	178	9		5	
Cats	SVI	Suspect sampling		animal sample > faeces		Animal	35	4		3	
Birds - zoo animal - at zoo - Clinical investigations	SVFI	Suspect sampling		animal sample		Animal	2	0			
Cats	SVFI	Suspect sampling		animal sample > organ/tissue		Animal	1	0			
Cats	SVFI	Suspect sampling		animal sample		Animal	6	0			
Cattle (bovine animals) - breeding bulls - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	142	0			0
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations	SVFI, SVI	Selective sampling		animal sample		Animal	82	13		6	
Chinchillas - at farm - Clinical investigations	SVFI	Suspect sampling		animal sample > faeces		Animal	1	0			
Dogs	SVFI	Suspect sampling		animal sample		Animal	10	4		4	
Parrots - at farm - Clinical investigations	SVFI	Suspect sampling		animal sample > faeces		Animal	3	0			
Pigs - breeding animals - at farm - Clinical investigations	SVI	Suspect sampling		animal sample		Animal	13	1	1		

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
Pigs - fattening pigs - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	74	26	3	3	
Rabbits - at farm - Clinical investigations	SVFI	Suspect sampling		animal sample > faeces		Animal	1	0			
Reptiles - zoo animal - at zoo - Clinical investigations	SVFI	Suspect sampling		animal sample		Animal	3	0			
Sheep - at farm - Clinical investigations	SVI	Suspect sampling		animal sample > organ/tissue		Animal	30	3	1		
Sheep - at farm - Clinical investigations	SVFI	Suspect sampling		animal sample > faeces		Animal	2	0			

	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Dogs	1	3
Cats		1
Birds - zoo animal - at zoo - Clinical investigations		
Cats		
Cats		
Cattle (bovine animals) - breeding bulls - at farm - Monitoring		

Table Campylobacter in animals

	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations		7
Chinchillas - at farm - Clinical investigations		
Dogs		
Parrots - at farm - Clinical investigations		
Pigs - breeding animals - at farm - Clinical investigations		
Pigs - fattening pigs - at farm - Clinical investigations		20
Rabbits - at farm - Clinical investigations		
Reptiles - zoo animal - at zoo - Clinical investigations		
Sheep - at farm - Clinical investigations		2
Sheep - at farm - Clinical investigations		

2.2.4 Antimicrobial resistance in Campylobacter isolates

A. Antimicrobial resistance of Campylobacter spp., unspecified in animal

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

The monitoring system for Antimicrobial resistance in Campylobacter in the Slovak republic has not been adopted.

B. Antimicrobial resistance of *Campylobacter* spp., unspecified in food

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

The monitoring of antimicrobial resistance of *Campylobacter* spp in Slovak republic is not adopted.

C. Antimicrobial resistance of *Campylobacter* spp., unspecified in animal - *Gallus gallus* (fowl)
- broilers - sampling in the framework of the broiler baseline study - at slaughterhouse - animal
sample - Survey - EU baseline survey

Sampling strategy used in monitoring

Frequency of the sampling

Monthly, randomly using randomization sheet.

Type of specimen taken

caecum

neck skin

Methods of sampling (description of sampling techniques)

Method of sampling is described in Annex 1 Part C and D of Commission Decision 2007/516/EEC.

Procedures for the selection of isolates for antimicrobial testing

Within the framework of monitoring antimicrobial resistance it was necessary to test minimum 170 isolates of *Campylobacter* spp. Not more than one isolate per *Campylobacter* species from the same slaughter batch was included in the monitoring.

If it was a lower number of isolates than the target sample size available, all these isolates would be included in the antimicrobial resistance monitoring.

In our case a higher number of isolates was available so we included all isolates.

71 of detected isolates of *Campylobacter* spp. presented mixed bacterial culture of *C. jejuni* and *C. coli*, which were confirmed by PCR.

In term of MIC level these mixed samples are not suitable for antimicrobial testing. To analyses there were only pure cultures chosen.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Campylobacter jejuni

Erythromycin

Ciprofloxacin

Tetracycline

Streptomycin

Gentamicin

Campylobacter coli

Erythromycin

Ciprofloxacin

Tetracycline

Streptomycin

Gentamicin

Control program/mechanisms

The control program/strategies in place

The control programme was performed according Commission Decision 2007/516/EC concerning a financial contribution from the Community towards a survey on the prevalence and antimicrobial resistance of *Campylobacter* spp. in broiler flocks and on the prevalence of

Campylobacter spp. and *Salmonella* spp. in broiler carcasses to be carried out in the Member States

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

Resistance of *Campylobacter* spp. isolates in *Gallus Gallus*.

All received data comes from State Veterinary and Food Institutes Dolny Kubin, Bratislava and Kosice. Statistical review elaborated National Reference Laboratory for antimicrobial resistance in Dolny Kubin. Samples of poultry *Gallus Gallus* were taken according "The survey on the prevalence and antimicrobial resistance of *Campylobacter* spp. in broiler flocks and on the prevalence of *Campylobacter* spp. a *Salmonella* spp. in broiler carcasses within the Slovak Republic" and in compliance with direction of State Veterinary and Food administration of the Slovak republic.

Campylobacter from caecum was isolated according to STN EN ISO 10272-1. positive samples were sent from SVFI Bratislava to NRL-AR, there the second identification of species was done by molecular methods and level of antimicrobial resistance was determined. Minimal inhibition concentration was assigned by microdilution method using micro- discs with required concentration range of antimicrobials pursuant to requirements of EFSA and CRL for antimicrobial resistance.

Analyses were done according guidelines CLSI M45-A, Vol.26, No.19 a CLSI M13-A3, Vol.28, No.8. For quality control was used reference strain *Campylobacter jejuni* ATCC 33560. Positive isolates of *Campylobacter* are stored in collection of NRL in period of 2 years. For the purpose of guaranty of quality proportion – 16 isolates of *Campylobacter* spp. was sent to Community Reference Laboratory for *Campylobacter* (SVA, Upsalla, Sweeden) for confirmation. Identification of 16 sent isolates identified by NRL was confirmed.

Within the framework of monitoring antimicrobial resistance it was necessary to test minimum 170 isolates of *Campylobacter* spp. Not more than one isolate per *Campylobacter* species from the same slaughter batch was included in the monitoring.

If it was a lower number of isolates than the target sample size available, all these isolates would be included in the antimicrobial resistance monitoring.

In our case a higher number of isolates was available so we included all isolates.

Totally 253 isolates of *Campylobacter* (*C. jejuni*, *C. coli*) were tested. Within survey there were 324 positive isolates of *Campylobacter* spp. detected, 71 of them presented mixed bacterial culture of *C. jejuni* and *C. coli*, which were confirmed by PCR.

In term of MIC level these mixed samples are not suitable for antimicrobial testing. To analyses there were only pure cultures chosen. Resistance to antimicrobials varied from 6, 7 % of isolates resistant to gentamicin to 65% isolates resistant to chinolones. Mostly alarming is resistance to chinolones (oxolin acid) and fluorochinolones (ciprofloxacin).

In this case was confirmed that *C. coli* is more resistant to antimicrobials than *C. jejuni*. 90% of *C. coli* isolates were resistant towards chinolones (OXO) in comparison with *C. jejuni* (68%) and 86% of *C. coli* isolates were resistant towards fluoroxinolones (CIP) compared with 67% of *C. jejuni* isolates. Mentioned type of resistance is quite spread and it's relevant because genes responsible for this type of resistance are localized on plasmid and they are combined with genes responsible for resistant to cephalosporines. Using fluorochinolones in therapy may cause transferable resistance to fluorochinolones and cephalosporines together.

Situation related to other tested antimicrobials is favourable.

Table Antimicrobial susceptibility testing of Campylobacter in Cattle (bovine animals)

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
	Isolates out of a monitoring program (yes/no)		no			
	Number of isolates available in the laboratory		5			
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin			2	1		
Fluoroquinolones - Ciprofloxacin			2	1		
Macrolides - Erythromycin			2	2		
Quinolones - Nalidixic acid			2	2		
Tetracyclines - Tetracycline			2	2		
Resistant to 3 antimicrobials			1	0		
Resistant to >4 antimicrobials			1	0		

Table Antimicrobial susceptibility testing of Campylobacter in Pigs

Campylobacter Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	C. coli		C. jejuni		Campylobacter spp., unspecified	
	no					
	5					
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin	5	5				
Fluoroquinolones - Ciprofloxacin	5	3				
Macrolides - Erythromycin	5	3				
Quinolones - Nalidixic acid	5	3				
Tetracyclines - Tetracycline	5	3				
Resistant to 1 antimicrobial	2	0				
Resistant to 3 antimicrobials	2	0				
Resistant to 4 antimicrobials	1	0				

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

Test Method Used		Standard methods used for testing		
Broth dilution				

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

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		Standard methods used for testing		
Broth dilution				

			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	

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		1	
	Streptomycin		2	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		4	
Tetracyclines	Tetracycline		2	

2.3 LISTERIOSIS

2.3.1 General evaluation of the national situation

A. Listeriosis general evaluation

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

All obtained data were collected from the State Veterinary and Food Institutes, the State Veterinary Institute, Public Health Authorities in Slovakia.

The samples comprised of official samples taken by inspectors of the Veterinary and Food Administrations according direction of State Veterinary and Food Administration "Plan for sampling and laboratory examination if products of animal origin for official controls", according Regulation (EC) No 2073/2005..

The Public Health Authority of the Slovak Republic (PHA of the SR) and Regional Health Authorities in the Slovak Republic (RHA in the SR) performed the sampling of foodstuffs and raw materials in compliance with the multi-annual national plan of the official control carried out by public health authorities and according Regulation (EC) No 2073/2005.

Samples are taken also in case of suspicion or consumers incentive.

All samples were tested in accordance with standardized international methods for *Listeria* presence (STN EN ISO 11290-1) or *Listeria* counts (STN EN ISO 11290-2) by single or batch system according to applicant's requirements and amount of a taken sample. The sample weight was 25g (detection method) or 10g (quantification method).

Regarding animals, it is mostly a matter of brain-tissue samples or abortion material tested for *L. monocytogenes* presence. According Plan of veterinary prevention and protection of state territory in 2012 all cases of abortion in cattle, sheep and goats are

Milk and dairy products

Regarding milk and products thereof were tested for *Listeria* presence or enumeration analysis. Cheeses were the most often tested commodities with positive result in 5 samples.

The most positive findings were found in cheeses made from raw or low heat treated sheep's milk and cheeses made from cow's milk or mixed milk.

Other foodstuffs

In other food, mainly infant formula, processed food and dishes, ready-to-eat salads, meat and meat products were under inspection, thereof 10 positive samples, 10 with detection method and 2 by enumeration method no samples beyond 100 CFU/g.

The most positive findings were detected in ready-to-eat processed food (6x) as dishes and salads. Further finding were in vegetable (2x) and in 1 sample of fresh broiler liver and 1 in meat product made from mixed meat.

Animals

In animals, in 53 samples were confirmed presence of *Listeria* (5,15%). Except 2 cases, all positive samples were positive for *Listeria monocytogenes*. The most positive samples were find in sheep (28x) and in cattle (20x). Further findings were in goats (3x) and other animals (2x).

Recent actions taken to control the zoonoses

Samples of foodstuffs are taken and investigated according Regulation 2073/2005 and multi-annual plan of official controls or in case of suspicion or consumers incentive.

Samples in animals are tested in case of suspicion and clinical symptoms. There is obligatory notification of abortions in cattle, sheep and goats and according Plan of veterinary prevention and protection of state territory in 2011 are samples of stillbirth and placenta bacteriologically tested for listeriosis.

2.3.2 Listeria in foodstuffs

A. Listeria in Food

Monitoring system

Sampling strategy

All obtained data were collected from the State Veterinary and Food Institutes, the State Veterinary Institute, Public Health Authorities in Slovakia.

The samples comprised of official samples taken by inspectors of the Veterinary and Food Administrations according direction of State Veterinary and Food Administration "Plan for sampling and laboratory examination if products of animal origin for official controls", according Regulation (EC) No 2073/2005..

The Public Health Authority of the Slovak Republic (PHA of the SR) and Regional Health Authorities in the Slovak Republic (RHA in the SR) performed the sampling of foodstuffs and raw materials in compliance with the multi-annual national plan of the official control carried out by public health authorities and according Regulation (EC) No 2073/2005.

Samples are taken also in case of suspicion or consumers incentive.

All samples were tested in accordance with standardized international methods for Listeria presence (STN EN ISO 11290-1) or Listeria counts (STN EN ISO 11290-2) by single or batch system according to applicant's requirements and amount of a taken sample. The sample weight was 25g (detection method) or 10g (quantification method).

Frequency of the sampling

At the production plant

according sampling plan

At retail

according sampling plan

Definition of positive finding

At the production plant

According Regulation (EC) No 2073/2005.

Diagnostic/analytical methods used

At the production plant

Listeria presence (STN EN ISO 11290-1) , Listeria counts (STN EN ISO 11290-2)

At retail

Listeria presence (STN EN ISO 11290-1), Listeria counts (STN EN ISO 11290-2)

Measures in case of the positive findings or single cases

According Regulation (EC) No 2073/2005.

Notification system in place

Rapid Alert System

Results of the investigation

Milk and dairy products

Regarding milk and products thereof were tested for *Listeria* presence or enumeration analysis. Cheeses were the most often tested commodities with positive result in 5 samples.

The most positive findings were found in cheeses made from raw or low heat treated sheep's milk and cheeses made from cow's milk or mixed milk.

Other foodstuffs

In other food, mainly infant formula, processed food and dishes, ready-to-eat salads, meat and meat products were under inspection, thereof 10 positive samples, 10 with detection method and 2 by enumeration method no samples beyond 100 CFU/g.

The most positive findings were detected in ready-to-eat processed food (6x) as dishes and salads. Further finding were in vegetable (2x) and in 1 sample of fresh broiler liver and 1 in meat product made from mixed meat.

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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Milk, cows' - pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk		Batch	25 ml	10	0	10	0
Milk, cows' - pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk	Domestic	Batch	10 ml	20	0		
Milk, sheep's - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample > milk		Batch	25 ml	1	0	1	0
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0	1	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	96	1	96	1
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0		
Cheeses made from cows' milk - hard - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	14	0	14	0
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	28	0		
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Single	205 g	1	0	1	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0	1	0
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	3	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	171	1	171	1
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	3	0	3	0
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0	1	0
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	1	0		
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0	1	0
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	1	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 ml	1	0		
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0	4	0
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 ml	1	0		
Cheeses made from cows' milk - curd - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0	4	
Cheeses made from cows' milk - curd - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	0	1	
Cheeses made from cows' milk - curd - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	6	0		
Cheeses made from cows' milk - curd - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	24	0		
Cheeses made from cows' milk - curd - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Domestic	Batch	10 g	2	0		
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0	1	0
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	88	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0	2	0
Cheeses made from cows' milk - unspecified - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0	2	0
Cheeses made from cows' milk - unspecified - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	20	0		
Cheeses made from cows' milk - unspecified - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Domestic	Batch	10 g	2	0		
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0	2	0
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	10	0	10	0
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	1	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	6	1	6	1
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0	1	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Domestic	Batch	10 g	1	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	4	0	4	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	7	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Domestic	Batch	25 g	1	0	1	0
Cheeses, made from mixed milk from cows, sheep and/or goats - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	14	2	14	2
Cheeses, made from mixed milk from cows, sheep and/or goats - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	14	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0	3	0
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	25	0		
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	6	0	6	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	11	0		
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 ml	16	0		
Dairy products (excluding cheeses) - dairy desserts - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	13	0	13	0
Dairy products (excluding cheeses) - dairy desserts - at retail - Surveillance	SVFI	Selective sampling					10 g	1	0		
Dairy products (excluding cheeses) - dairy desserts - at retail - Surveillance	SVFI	Selective sampling					10 ml	1	0		
Dairy products (excluding cheeses) - dairy desserts - at retail - Surveillance	SVFI	Objective sampling					10 g	3	0		
Dairy products (excluding cheeses) - dairy desserts - at retail - Surveillance	SVFI	Objective sampling					10 g	56	0		
Dairy products (excluding cheeses) - dairy desserts - frozen - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Dairy products (excluding cheeses) - dairy desserts - frozen - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	25	0		
Dairy products (excluding cheeses) - dairy products, not specified - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0	3	0
Dairy products (excluding cheeses) - dairy products, not specified - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 ml	1	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
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	12	0	12	0
Dairy products (excluding cheeses) - fermented dairy products - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	32	0		
Dairy products (excluding cheeses) - fermented dairy products - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 ml	1	0		
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0	2	0
Milk, cows' - UHT milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk		Batch	25 ml	1	0	1	0
Milk, cows' - UHT milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk		Batch	10 ml	9	0		
Milk, cows' - UHT milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk		Batch	25 ml	1	0	1	0
Milk, cows' - pasteurised milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample > milk		Batch	25 ml	4	0	4	0
Milk, cows' - pasteurised milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample > milk	Domestic	Batch	10 ml	4	0		
	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g								
Milk, cows' - 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. monocytogen es > 100 cfu/g
Milk, cows' - pasteurised milk - at retail - Surveillance	20	0	
Milk, sheep's - 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 retail - Surveillance			
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	1	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	1	0	0
Cheeses made from cows' milk - hard - made from pasteurised milk - at processing plant - Surveillance			
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - Surveillance	28	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 raw or low heat-treated milk - at retail - Surveillance	2	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance			
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	3	0	0
Cheeses made from sheep's milk - soft and semi- soft - made from raw or low heat-treated milk - at processing plant - Surveillance	1	0	0
Cheeses made from sheep's milk - soft and semi- soft - made from raw or low heat-treated milk - at retail - 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 - soft and semi- soft - made from pasteurised milk - at retail - Surveillance	1	0	0
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance			
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at retail - Surveillance	1	0	0
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at retail - Surveillance	1	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 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	1	0	0
Cheeses made from cows' milk - curd - at processing plant - Surveillance			
Cheeses made from cows' milk - curd - at processing plant - Surveillance			
Cheeses made from cows' milk - curd - at retail - Surveillance	6	0	0
Cheeses made from cows' milk - curd - at retail - Surveillance	24	0	0
Cheeses made from cows' milk - curd - at retail - Surveillance	2	0	0
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant - Surveillance			
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - Surveillance	1	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	88	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance			

Table *Listeria monocytogenes* in milk and dairy products

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Cheeses made from cows' milk - unspecified - at processing plant - Surveillance			
Cheeses made from cows' milk - unspecified - at retail - Surveillance	20	0	0
Cheeses made from cows' milk - unspecified - at retail - Surveillance	2	0	0
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at retail - 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 - soft and semi-soft - made from pasteurised milk - at retail - Surveillance	1	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 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 retail - Surveillance	1	0	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance			

Table *Listeria monocytogenes* in milk and dairy products

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	7	0	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance			
Cheeses, made from mixed milk from cows, sheep and/or goats - at processing plant - Surveillance	1	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - at retail - Surveillance	1	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - at retail - Surveillance	14	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - at retail - Surveillance	1	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from pasteurised milk - at processing plant - Surveillance			
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from pasteurised milk - at retail - Surveillance	25	0	0
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance			
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at retail - Surveillance	11	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at retail - Surveillance	16	0	0
Dairy products (excluding cheeses) - dairy desserts - at processing plant - Surveillance			
Dairy products (excluding cheeses) - dairy desserts - at retail - Surveillance	1	0	0
Dairy products (excluding cheeses) - dairy desserts - at retail - Surveillance	1	0	0
Dairy products (excluding cheeses) - dairy desserts - at retail - Surveillance	3	0	0
Dairy products (excluding cheeses) - dairy desserts - at retail - Surveillance	56	0	0
Dairy products (excluding cheeses) - dairy desserts - frozen - at processing plant - Surveillance	2	0	0
Dairy products (excluding cheeses) - dairy desserts - frozen - at retail - Surveillance	25	0	0
Dairy products (excluding cheeses) - dairy products, not specified - at processing plant - Surveillance			
Dairy products (excluding cheeses) - dairy products, not specified - at retail - Surveillance	1	0	0
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance			

Table *Listeria monocytogenes* in milk and dairy products

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Dairy products (excluding cheeses) - fermented dairy products - at retail - Surveillance	32	0	0
Dairy products (excluding cheeses) - fermented dairy products - at retail - Surveillance	1	0	0
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance			
Milk, cows' - UHT milk - at processing plant - Surveillance			
Milk, cows' - UHT milk - at retail - Surveillance	9	0	0
Milk, cows' - UHT milk - at retail - Surveillance			
Milk, cows' - pasteurised milk - at processing plant - Surveillance			
Milk, cows' - pasteurised milk - at retail - Surveillance	4	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0	3	0
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	2	0		
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	105	0	105	0
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	79	0		
Fish - smoked - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0	3	0
Fish - smoked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	13	0		
Crustaceans - unspecified - cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	4	0		
Infant formula - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	38	0	38	0
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	69	0	69	0
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	4	0		
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	8	0		
Beverages, non-alcoholic - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 ml	3	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Coconut - coconut products - at processing plant - Surveillance	SVFI	Convenience sampling	Official sampling	food sample		Batch	10 g	1	0		
Confectionery products and pastes - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	19	0	19	0
Confectionery products and pastes - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	1	0		
Confectionery products and pastes - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	61	0		
Confectionery products and pastes - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	4	0		
Confectionery products and pastes - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	5	0	5	0
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	16	0		
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Single	10 g	1	0		
Fish - smoked - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Imported from outside EU	Batch	10 g	1	0		
Fish - smoked - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0	1	0
Fishery products, unspecified - ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	12	0	12	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Fishery products, unspecified - ready-to-eat - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	10	0	10	0
Fishery products, unspecified - ready-to-eat - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	1	0		
Fruits - pre-cut - ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	4	0		
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0	2	0
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Imported from outside EU	Batch	10 g	1	0		
Fruits and vegetables - non-pre-cut - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	1	0		
Fruits and vegetables - non-pre-cut - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	2	0		
Infant formula - dried - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	23	0	23	0
Infant formula - dried - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	151	0	151	0
Infant formula - dried - intended for infants below 6 months - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0	2	0
Infant formula - dried - intended for infants below 6 months - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Batch	25 g	120	0	70	0
Infant formula - dried - intended for infants below 6 months - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Single	25 g	34	0	24	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Single	10 g	38	0		
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	119	0	119	0
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	7	0	7	0
Infant formula - liquid - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0	1	0
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0		
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	0	1	0
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	15	0		
Meat from broilers (<i>Gallus gallus</i>) - offal - liver - at border control - Surveillance	SVFI		Official sampling	food sample		Batch	25 g	1	1	1	1
Meat from pig - fresh - at slaughterhouse - Surveillance	SVFI	Objective sampling	Official sampling	food sample > meat		Single	25 g	1	0	1	0
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	0	1	0
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0		
Meat from pig - meat products - fermented sausages - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	17	0	17	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Meat from pig - meat products - fermented sausages - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	28	0		
Meat from pig - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	3	0	3	0
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0		
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0		
Meat from turkey - meat products - cooked, ready-to-eat - chilled - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	2	0		
Meat, mixed meat - meat products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Meat, mixed meat - meat products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	6	0	6	0
Meat, mixed meat - meat products - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	23	0		
Meat, mixed meat - meat products - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	2	0		
Meat, mixed meat - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	55	1	55	1
Meat, mixed meat - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	0	1	0
Meat, mixed meat - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	2	0		
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	36	0		
Nuts and nut products - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Imported from outside EU	Batch	10 g	2	0		
Nuts and nut products - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	2	0		
Nuts and nut products - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	5	0		
Nuts and nut products - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Imported from outside EU	Batch	10 g	3	0		
Other processed food products and prepared dishes - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	51	1	51	1
Other processed food products and prepared dishes - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	29	0		
Other processed food products and prepared dishes - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	2	0		
Other processed food products and prepared dishes - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	5	2	5	2
Other processed food products and prepared dishes - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample	Domestic	Batch	10 g	4	0		
Other processed food products and prepared dishes - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	32	0		
Other processed food products and prepared dishes - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Domestic	Batch	10 g	2	0		
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	4	0	4	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	2	0	2	0
Other processed food products and prepared dishes - sandwiches - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	13	0	13	0
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	21	0	21	0
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	21	0		
Other processed food products and prepared dishes - sandwiches - non-meat - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	1	0	1	0
Other processed food products and prepared dishes - sandwiches - non-meat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	9	0	9	0
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	5	0	5	0
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	6	0	6	0
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	7	0	7	0
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	5	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	17	0	17	0
Other processed food products and prepared dishes - sushi - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	12	0	12	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	51	0	51	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Monitoring	PHA	Objective sampling	Official sampling		Domestic	Single	25 g	7	0	7	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample > blood	Domestic	Batch	25 g	5	0	5	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0		
Ready-to-eat salads - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	23	0	23	0
Ready-to-eat salads - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	9	0	9	0
Ready-to-eat salads - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	126	0	109	0
Ready-to-eat salads - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	41	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Ready-to-eat salads - containing mayonnaise - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	1	0	1	0
Ready-to-eat salads - containing mayonnaise - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	70	1	70	1
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	3	0		
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	37	0	37	0
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	27	2	27	2
Seeds, sprouted - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0		
Spices and herbs - dried - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	5	0		
Spices and herbs - dried - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	14	0	14	0
Spices and herbs - dried - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	20	0		
Spices and herbs - dried - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Imported from outside EU	Batch	10 g	2	0		
Vegetables - non-pre-cut - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	10	0	10	0
Vegetables - non-pre-cut - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	69	2	69	2
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	25 g	58	0	58	0
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	5	0	5	0

Table *Listeria monocytogenes* in other foods

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at processing plant - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at retail - Surveillance	2	0	0
Meat from pig - meat products - cooked, ready-to- eat - at processing plant - Surveillance			
Meat from pig - meat products - cooked, ready-to- eat - at retail - Surveillance	79	0	0
Fish - smoked - at processing plant - Surveillance			
Fish - smoked - at retail - Surveillance	13	0	0
Crustaceans - unspecified - cooked - at retail - Surveillance	4	0	0
Infant formula - at retail - Surveillance			
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	69	0	0
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	4	0	0
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	8	0	0
Beverages, non-alcoholic - at retail - Surveillance	3	0	0
Coconut - coconut products - at processing plant - Surveillance	1	0	0

Table *Listeria monocytogenes* in other foods

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Confectionery products and pastes - at processing plant - Surveillance			
Confectionery products and pastes - at processing plant - Surveillance	1	0	0
Confectionery products and pastes - at retail - Surveillance	61	0	0
Confectionery products and pastes - at retail - Surveillance	4	0	0
Confectionery products and pastes - at retail - Surveillance			
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at processing plant - Surveillance	2	0	0
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at retail - Surveillance	16	0	0
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at retail - Surveillance	1	0	0
Fish - smoked - at retail - Surveillance	1	0	0
Fish - smoked - at retail - Surveillance			
Fishery products, unspecified - ready-to-eat - at processing plant - Surveillance			
Fishery products, unspecified - ready-to-eat - at retail - Monitoring	10	0	0

Table *Listeria monocytogenes* in other foods

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Fishery products, unspecified - ready-to-eat - at retail - Surveillance	1	0	0
Fruits - pre-cut - ready-to-eat - at processing plant - Surveillance	3	0	0
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	4	0	0
Fruits - pre-cut - ready-to-eat - at retail - Surveillance			
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	1	0	0
Fruits and vegetables - non-pre-cut - at retail - Surveillance	1	0	0
Fruits and vegetables - non-pre-cut - at retail - Surveillance	2	0	0
Infant formula - dried - at retail - Surveillance	23	0	
Infant formula - dried - at retail - Surveillance			
Infant formula - dried - intended for infants below 6 months - at processing plant - Surveillance			
Infant formula - dried - intended for infants below 6 months - at retail - Monitoring	50	0	0
Infant formula - dried - intended for infants below 6 months - at retail - Monitoring	10	0	0
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	38	0	0

Table *Listeria monocytogenes* in other foods

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	119	0	0
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	7	0	0
Infant formula - liquid - at retail - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance	1	0	0
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at processing plant - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at retail - Surveillance	15	0	0
Meat from broilers (<i>Gallus gallus</i>) - offal - liver - at border control - Surveillance			
Meat from pig - fresh - at slaughterhouse - Surveillance			
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance			
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance	1	0	0
Meat from pig - meat products - fermented sausages - at processing plant - Surveillance			
Meat from pig - meat products - fermented sausages - at retail - Surveillance	28	0	0

Table *Listeria monocytogenes* in other foods

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Meat from pig - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance			
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Surveillance	1	0	0
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Surveillance	1	0	0
Meat from turkey - meat products - cooked, ready-to-eat - chilled - at retail - Surveillance	2	0	0
Meat, mixed meat - meat products - at processing plant - Surveillance	2	0	0
Meat, mixed meat - meat products - at processing plant - Surveillance			
Meat, mixed meat - meat products - at retail - Surveillance	23	0	0
Meat, mixed meat - meat products - at retail - Surveillance	2	0	0
Meat, mixed meat - 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 - cooked, ready-to-eat - at processing plant - Surveillance	2	0	0
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - Surveillance	2	0	0

Table *Listeria monocytogenes* in other foods

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - Surveillance	36	0	0
Nuts and nut products - at retail - Surveillance	2	0	0
Nuts and nut products - at retail - Surveillance	2	0	0
Nuts and nut products - at retail - Surveillance	5	0	0
Nuts and nut products - at retail - Surveillance	3	0	0
Other processed food products and prepared dishes - at processing plant - Surveillance			
Other processed food products and prepared dishes - at processing plant - Surveillance	29	0	0
Other processed food products and prepared dishes - at processing plant - Surveillance	2	0	0
Other processed food products and prepared dishes - at retail - Monitoring			
Other processed food products and prepared dishes - at retail - Surveillance	4	0	0
Other processed food products and prepared dishes - at retail - Surveillance	32	0	0
Other processed food products and prepared dishes - at retail - Surveillance	2	0	0
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance			
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance			

Table *Listeria monocytogenes* in other foods

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Other processed food products and prepared dishes - sandwiches - at processing plant - Surveillance			
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance			
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	21	0	0
Other processed food products and prepared dishes - sandwiches - non-meat - at processing plant - Surveillance			
Other processed food products and prepared dishes - sandwiches - non-meat - at retail - Surveillance	9	0	0
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring	5	0	0
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring	6	0	0
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Monitoring	7	0	0
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance	5	0	0
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance	17	0	0

Table *Listeria monocytogenes* in other foods

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Other processed food products and prepared dishes - sushi - at catering - Surveillance	12	0	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	1	0	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Surveillance	51	0	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Monitoring	7	0	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Monitoring	5	0	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance	1	0	0
Ready-to-eat salads - at processing plant - Surveillance			
Ready-to-eat salads - at retail - Surveillance			
Ready-to-eat salads - at retail - Surveillance	17	0	0
Ready-to-eat salads - at retail - Surveillance	41	0	0
Ready-to-eat salads - containing mayonnaise - at retail - Monitoring	1	0	0
Ready-to-eat salads - containing mayonnaise - at retail - Monitoring	70	0	0

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 - containing mayonnaise - at retail - Surveillance	3	0	0
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	37	0	0
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	27	0	0
Seeds, sprouted - at retail - Surveillance	1	0	0
Spices and herbs - dried - at processing plant - Surveillance	5	0	0
Spices and herbs - dried - at processing plant - Surveillance			
Spices and herbs - dried - at retail - Surveillance	20	0	0
Spices and herbs - dried - at retail - Surveillance	2	0	0
Vegetables - non-pre-cut - at catering - Surveillance	10	0	0
Vegetables - non-pre-cut - at retail - Surveillance	69	2	0
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	58	0	0
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	5	0	0

2.3.3 Listeria in animals

A. Listeria in Animals

Monitoring system

Sampling strategy

Animals are tested for Listeria in case of clinical signs or in case of suspicion.

According Plan of veterinary prevention and protection of state territory in 2012 all cases of abortion in cattle, sheep and goats are officially tested for presence of Listeria.

Frequency of the sampling

in case of abort

Type of specimen taken

brain-tissue samples, abortion material, blood

Results of the investigation

In animals, in 53 samples were confirmed presence of Listeria (5,15%). Except 2 cases, all positive samples were positive for Listeria monocytogenes. The most positive samples were find in sheep (28x) and in cattle (20x). Further findings were in goats (3x) and other animals (2x).

All results in table Listeria in animals.

Table Listeria in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Listeria	L. monocytogenes	Listeria spp., unspecified	L. innocua
Cattle (bovine animals) - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	6	0			
Sheep - at farm - Monitoring	SVFI, SVI.	Objective sampling	Official sampling	animal sample > blood		Animal	23	4	4		
Goats - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	39	0			
Pigs - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	1	0			
Cattle (bovine animals) - at farm - Clinical investigations	SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	27	0			
Cattle (bovine animals) - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	208	19	18	1	
Cattle (bovine animals) - at farm - Monitoring	SVFI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	65	0			
Cattle (bovine animals) - at farm - Monitoring	SVFI	Objective sampling	Official sampling	animal sample > foetus/stillbirth		Animal	259	1			1
Cattle (bovine animals) - at farm - Monitoring	SVFI	Selective sampling	Industry sampling	animal sample > blood		Animal	1	0			
Deer - wild - fallow deer - Surveillance	SVFI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	1	1	1		

Table Listeria in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Listeria	L. monocytogenes	Listeria spp., unspecified	L. innocua
Goats - at farm - Monitoring	SVFI	Objective sampling	Official sampling	animal sample > foetus/stillbirth		Animal	12	0			
Goats - at farm - Monitoring	SVFI	Suspect sampling	Industry sampling	animal sample > brain		Animal	3	1	1		
Goats - at farm - Monitoring	SVFI	Selective sampling	Industry sampling	animal sample > blood		Animal	3	2	2		
Goats - at farm - Monitoring	SVFI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	1	0			
Parrots - Monitoring	SVFI	Suspect sampling		animal sample > blood		Animal	1	0			
Parrots - Monitoring	SVFI	Suspect sampling		animal sample > faeces		Flock	2	0			
Rabbits - farmed - at farm - Surveillance	SVFI	Suspect sampling		animal sample > foetus/stillbirth		Animal	2	1	1		
Sheep - at farm - Clinical investigations	SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	30	2	2		
Sheep - at farm - Monitoring	SVFI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	34	0			
Sheep - at farm - Monitoring	SVFI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	73	15	15		

Table Listeria in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Listeria	L. monocytogenes	Listeria spp., unspecified	L. innocua
Sheep - at farm - Monitoring	SVFI	Objective sampling	Official sampling	animal sample > foetus/stillbirth		Animal	239	7	7		

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

A. Verotoxigenic Escherichia coli infections general evaluation

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

The monitoring system for Verotoxigenic E.coli in the Slovak republic has not been adopted.

In foodstuffs, mostly suspect samples were taken. Samples were tested for presence and for VTEC and presence of VT1, VT2 and eae genes.

NO VTEC strain was isolated from samples, but in some samples the genes responsible for the production of toxin (VT1, VT2 or intimin eae) were confirmed.

Diagnostical method used : cultivation, VIDAS, PCR

In animals only suspect samples were taken in pet animals with 4 positive finding of O157 in dogs.

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
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		ISO/PRF TS 13136	Single	25 g	5	0	
Meat, mixed meat - meat products - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		ISO/PRF TS 13136	Single	25 g	1	0	
Milk, sheep's - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample > milk		ISO/PRF TS 13136	Single	25 ml	1	0	
Other processed food products and prepared dishes - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		ISO/PRF TS 13136	Single	25 g	1	0	
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	ISO/PRF TS 13136	Single	10 g	2	0	

	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance		
Meat, mixed meat - meat products - at retail - Surveillance		

Table VT E. coli in food

	Verotoxigenic E. coli (VTEC) - VTEC non- O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Milk, sheep's - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance		
Other processed food products and prepared dishes - at retail - Surveillance		
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring		

2.4.3 Escherichia coli, pathogenic in animals

Table VT E. coli in animals

	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
Dogs - Clinical investigations	SVFI	Suspect sampling		animal sample > organ/tissue			Animal		9	0	
Cats - Clinical investigations		Suspect sampling		animal sample > organ/tissue			Animal		3	0	
Cats - Clinical investigations	SVFI	Suspect sampling		animal sample > faeces			Animal		46	0	
Dogs - Clinical investigations	SVFI	Suspect sampling		animal sample > faeces			Animal		168	0	
Dogs - Clinical investigations	SVFI	Suspect sampling		animal sample			Animal		10	1	1

	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Dogs - Clinical investigations		
Cats - Clinical investigations		
Cats - Clinical investigations		
Dogs - Clinical investigations		
Dogs - Clinical investigations		

Table VT E. coli in animals

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

In Europe the bovine tuberculosis belongs still to the serious disease in humans and animals. The disease situation in TBC occurrence, in pursuance of the definition of the International Animal Health Code OIE is a territory of the country free of bovine tuberculosis in cattle till the prevalence of infected herds does not exceed 0,2% of totally bred herds. This condition fulfilled also Slovakia as to 4.3.2005 (Commission Decision No. 2005/179/EC).

In Slovakia bovine tuberculosis was controlled within the national eradication programme in the second half of the last century. In the years 1990-1999 the decrease of bovine tuberculosis incidence in cattle was recorded in Slovakia. With the decreasing incidence of bovine tuberculosis in cattle also decrease of bovine tuberculosis in other animals was recorded in Slovakia.

The last occurrence of *M.bovis* in bovine animals in Slovakia was in year 1992, owner of agricultural cooperative Tupa, District Levice.

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

In 2012 no samples were investigated.

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

In finding of *Mycobacterium* in slaughtered animals are the carcasses confiscated.

Recent actions taken to control the zoonoses

Tuberculin test in cattle and pigs.

Bacteriological examination after slaughtering of positive reactors and in case of evidence of a significant changes indicating tuberculosis

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

On the basis of Commission Decision 2005/179/EC Slovak Republic is officially free of tuberculosis.

Free regions

All regions in Slovak Republic are officially free of tuberculosis.

Monitoring system

Sampling strategy

Positive reagents in simple tuberculin test are examined by comparative test earliest in 6-8 weeks, repeatedly positively reacted animals for bovine tuberculin are slaughtered and their lymphnodes are additionally examined laboratorily in the respective NRL for bovine tuberculosis. Tuberculosis changes identified in routine veterinary-hygienic examination of slaughtered bovine animals are also laboratory examined.

Frequency of the sampling

in case of positive intravital tests - reagents for tuberculin, TBC changes at slaughterhouses

Type of specimen taken

lymph nodes according to district competence, in valuable animals - lung lavage

Methods of sampling (description of sampling techniques)

3- packing, label, application form (accompanying report), cool 2-8 °C, or freezing, taking into so called sample, transport to NRL

Case definition

detailed description

Diagnostic/analytical methods used

1. pathological-anatomical examination

-Imprint preparation (Z-N)

-Sediment preparation (Z-N)

2. cultivation - macroscopic and microscopic control in 1st, 4th, 6th, 9th week.

In case of positive findings:

3. isolation

4. typing- biochemical typing, PCR, genotyping

Examinations are covered by state (Veterinary prevention and protection).

Vaccination policy

vaccination is not performed

Other preventive measures than vaccination in place

isolation of reagents, announcement of outbreak

Control program/mechanisms

The control program/strategies in place

- . control programmes, procedures on the spot : intravital diagnostics, isolation
- . current actions for the purpose of zoonosis control: surveillance

Recent actions taken to control the zoonoses

A) Single intradermal tuberculin test by mammalian tuberculin:

Examine

- once per year 25% of holdings in the district - all cattle over 24 months of age
- once per year new holding registered in 2011 – all cattle over 24 month
- once per year bulls in insemination centre and bulls used for natural breeding, tests should be performed up to 12 months since the last examination.
- young bulls before the basic selection,
- in holdings with evidence of a significant changes indicating tuberculosis within post mortem inspection (suspicion of the tuberculosis) is the officially tuberculosis-free herd status suspended and tuberculation of all animals over six weeks of age is performed (immediately in the case if minimum 42 days elapsed after the last tuberculation)
- in case of indiscriminated examinations in quarantine, feminine animals over 6 weeks of age intended for breeding and production and breeding bulls over 6 weeks of age (except slaughter) from third countries and tuberculosis non-free member states. Within examination take account to date of last tuberculation (over 42 days).

B) Intradermal comparative test by mammalian tuberculin and avian tuberculin used for intradermal comparative test:

a) in the holdings with presence of positive reactors to mammalian tuberculin in the single intradermal tuberculin test

- suspend the officially tuberculosis-free herd status
 - slaughter the positive reactor
 - carry out all prescribed examinations of the positive reagent
 - the status of the herd shall remain suspended until such time as all laboratory examinations have been completed - if the presence of tuberculosis is not confirmed by laboratory examinations, the suspension of the officially tuberculosis-free status may be lifted following an intradermal comparative test of all animals over six weeks of age with negative results at least 42 days after the removal of the reactor animal
- Or

2. if there is a suspicion of false positive test reaction or interference test reaction

- suspend the officially tuberculosis-free herd status
- isolate the positive reactor
- the officially tuberculosis-free status may be lifted following an intradermal comparative test of all animals over six weeks of age with negative results performed at least 42 days after single intradermal test performance

b) in the holdings with inconclusive reactors to single intradermal tuberculin test with mammalian tuberculin (also when last single intradermal tuberculin test was performed previous year and reasonable suspicion of false positive reaction or interference reaction is in place as result e.g. presence of different mycobacteriae, evidence M. avium subsp. M. paratuberculosis, etc.), further test to clarify the status of inconclusive reactors the intradermal comparative test have to be used.

Intradermal comparative test inconclusive reactors are subjected to repetitive test after at least 42 days. If the animals after repeated intradermal comparative test are not negative, shall be deemed to be positive

reactors - these animals are removed from the herd and after their slaughter, laboratory and epizootical examination is performed.

If tuberculosis is not confirmed, all animals over six weeks of age are subjected to another intradermal comparative test which is performed after at least 42 days from the removal of the positive reactor .

If the tuberculosis is confirmed, the officially tuberculosis-free status is to be withdrawn and the procedure of the Governmental ordinance 280/2003 Coll. on animal health problems affecting intra-Community trade in bovine animals and swine should be followed.

c) In the holdings with positive M.bovis or M.avium microbiological result and in the case of staff tuberculosis affection

C) Bacteriological examination

- after slaughtering of positive reactors

- case of evidence of a significant changes indicating tuberculosis

Measures in case of the positive findings or single cases

slaughtering, additional laboratory examination, notification from National Reference Laboratory to State Veterinary and Food Administration of the Slovak Republic and SVFA notify to EU

Measures in case of the positive findings or single cases

slaughtering, additional laboratory examination, notification from National Reference Laboratory to State Veterinary and Food Administration of the Slovak Republic and SVFA notify to EU

Notification system in place

District veterinarian or inspector notify suspect or positive findings to DVFA, RVFA and SVFA

Results of examinations: are notified from National Reference Laboratory to State Veterinary and Food Administration of the Slovak Republic.

Results of the investigation

In 2011, no positive samples of bovine tuberculosis were detected.

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			
Slovenská Republika	8407	492209	8407	100	0	0	every four years	61044	0	0	0
Total : ¹⁾	8407	492209	8407	100	0	0	N.A.	61044	0	0	0

Comments:

¹⁾ N.A.

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

Liquidation of brucellosis in the years 1959 - 1964 was mainly based on antibody proof. In the Slovak Republic the vaccination was never used in liquidation of brucellosis and it was proceeded only by radical or elimination method in recovering of the holding. In case of detection of suspicion on presence of bovine brucellosis, a respective veterinary administration authority immediately issued measures for the respective holding in order to confirm or exclude the disease in the holding, it mainly restricted movement from the holding, ordered separate stabling of infected animals or animals suspected from the disease, from healthy animals, ensured taking of suitable samples for laboratory examination.

Ordered measures were cancelled only after an official ruling out of bovine brucellosis in the holding – the negative result of the laboratory examination.

In case of confirmation of brucellosis the outbreak of the disease was defined and it was proceeded either using the radical or elimination method of eradication of the holding.

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

Slovakia is officially free of brucellosis (*B.melitensis*, *B. abortus*).

Recent actions taken to control the zoonoses

Within the framework of „Plan of veterinary prevention and protection of state territory in 2012“ continuous monitoring of epidemiological situation through monitoring of antibodies against *Brucella* in holdings was carried out in 2012. Detection of postinfection anti-brucella antibodies was performed within targeted intravital diagnostics in case of suspicion that abortions of female animals were caused by *Brucella* and within preventive diagnostics in holdings.

Except cattle, sheep and goats, plan of veterinary prevention and protection includes monitoring of brucellosis in pigs.

In the Slovak Republic there is obligatory to notify abort cases at which the suspicion from being happened due to the brucellosis occurrence exists, and such cases are examined by the competent veterinary administration authority. After abort there is obligation to examine animal in interval of 21 days. Stillbirths and placenta are tested bacteriologically for presence of *brucella*.

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

Slovakia is officially free of brucellosis based on Commission Decision 2005/179/ES.

Free regions

All regions are free of brucellosis.

Monitoring system

Sampling strategy

Samples are taken within the frame of monitoring system or in case of abort.

-Examination of blood samples serologically:

-once per year 25% of holdings in the district - all animals over 24 months of age

-once per year new holding registered in 2012 – all cattle over 24 month

-once per year bulls in insemination centre and bulls used for natural breeding and before basic selection of young breeding bulls, tests should be performed up to 12 months since the last examination.

-in case of undiscriminated examinations in quarantine, feminine animals over 12 months of age intended for breeding and production and breeding bulls over 12 months of age (except slaughter) from third countries and brucellosis non-free member states.

-in case of abort animals are tested serologically and bacteriologically

Frequency of the sampling

Samples are taken once per year within the frame of monitoring system.

In case of abort, cows are tested two times in interval of 21 days.

Type of specimen taken

Blood, foetus, placenta or other tissues for bacteriological identification

Case definition

An animal is considered to be infected with *Brucella* spp. in case of positive serological test results and the epidemiological situation of the herd indicates the possibility that a brucella infection has been introduced to the herd and in case bacteriological isolation of the agent.

Diagnostic/analytical methods used

Diagnostic methods used are presented in the Annex 4 of the Ordinance of the Government of the Slovak Republic No.280/2003 Coll. of 9 July 2003 on health problems affecting the trade with bovine animals and porcine animals – it is the full transposition of the Annex C of the Council Directive 64/ 432 / EEC

Serological tests: Serum agglutination test, Complement fixation test, Rose Bengal test, ELISA

Bacteriological tests: Cultivation, isolation and identification of bacteria genus *Brucella*

Identification of bacteria (biotype)

Biochemical tests

Agglutination in monospecific antisera

Typing with bacteriophages

Molecular tests: Real-time PCR

Vaccination policy

In SR the vaccination at liquidation of brucellosis has been never used and only the radical or elimination method of eradication of a herd has been used.

Control program/mechanisms

The control program/strategies in place

Slovak Republic free of brucellosis (*B.melitensis*) based on Commission Decision 2005/179/ES. For retention this status there is performing surveillance according Plan of veterinary prevention and protection of state territory in 2011“. Competent authority has to inform owners about requirements to retain status of official brucellosis free country and prophylactic and diagnostic actions. Owner is responsible to perform these actions. Registration of farm in Central Evidence of Animals is requirement for declaration of the status. New registered farms in Central Evidence of Animals retain status “unknown”, till fulfilling of requirements for declaration of status free of brucellosis or officially free of brucellosis. In case of significant discounts in identification and registration of animals in Central Evidence found within controls on spot is status of free of brucellosis or officially free of brucellosis suspended or withdrawal. The condition of movement between holdings on the territory of the Slovak Republic is issuing of an accompanying document on holding classification by official veterinarian in place of origin of animals. The condition of issuing of this document is the fulfilment of criteria for registration of farm and identification of animals, clinical investigation of breeding animals and animals for production and the fulfilment of criteria for retention of the officially free status

In the Slovak Republic there is obligatory to notify abort cases at which the suspicion from being happened due to the brucellosis occurrence exists, and such cases are examined by the competent veterinary administration authority.

Each bovine animal suspicious of brucellosis infection shall be notified to the competent veterinary administration authority and is subject to the official epizootological examination for brucellosis consisting of minimum 2 serological blood tests, including complement fixation test (CFT) and microbiological examination of appropriate samples.

During the time of suspicion which lasts until the negative results of tests mentioned in the previous paragraph are obtained, in case of the herd of the origin or transit or the suspected animal and herds epizootologically connected with it, the status of officially recognized as brucellosis-free will be suspended. Bovine animals moved into the herd must originate from herds officially recognized as brucellosis-free status, and in case of bovine animals older than 12 months, it must have the titer of antibodies less than 30 IU agglutination for ml in given serum-agglutination test performed in compliance with Annex 4 of the Ordinance of the Government of the Slovak Republic No. 280/2003 Coll. on health problems affecting the trade with bovine animals and porcine animals, or they reacted negatively on each other test approved in accordance with EU requirements during 30 days before the date of introduction into the herd.

Recent actions taken to control the zoonoses

- continuous monitoring of epidemiological situation through monitoring of antibodies against *Brucella* in holdings
- obligatory notification of abort cases

Measures in case of the positive findings or single cases

Each bovine animal suspicious of brucellosis is subject to the official epizootological examination for brucellosis consisting of minimum 2 serological blood tests, including complement fixation test (CFT) and microbiological examination of appropriate samples.

During the time of suspicion which lasts until the negative results of tests mentioned in the previous paragraph are obtained, in case of the herd of the origin or transit or the suspected animal and herds epizootologically connected with it, the status of officially recognized as brucellosis-free will be suspended.

Notification system in place

In the Slovak Republic there is obligatory to notify about cases at which the suspicion from being happened due to the brucellosis occurrence exists, and such cases are examined by the competent veterinary administration authority.

Each bovine animal suspicious of brucellosis infection shall be notified to the competent veterinary administration authority and is subject to the official epizootological examination for brucellosis consisting of minimum 2 serological blood tests, including complement fixation test (CFT) and microbiological examination of appropriate samples.

Results of the investigation

Bacteriologically there were in cattle investigated 546 samples and serologically 61868 samples in 2012. No positive result was recorded.

B. Brucella melitensis in goats

Status as officially free of caprine brucellosis during the reporting year

The entire country free

The whole territory Slovak Republic is officially free of sheep and goat brucellosis in accordance with Commission Decision No. 97/232/ES.

The disease has never been found in the Slovak Republic.

Free regions

All regions are free of caprine brucellosis.

Monitoring system

Sampling strategy

Examination of individual blood samples serologically

- once a year there are investigated 5% of female animals from each herd over 6 months of age
- once a year all breeding he-goats
- in case of abort, animals are tested both serologically and bacteriologically

Frequency of the sampling

- once a year according to „Plan of veterinary prevention and protection of state territory in 2012“
- blood samples of the animals in case of abort are tested two times in interval of 21 days

Type of specimen taken

Blood, fetus, placenta

Case definition

An animal is considered to be infected with *Brucella* spp. in case of positive serological test results and the epidemiological situation of the herd indicates the possibility that a brucella infection has been introduced to the herd and in case bacteriological isolation of the agent.

Diagnostic/analytical methods used

According to Council Directive 64/432/EEC and OIE diagnostics techniques:

Serological tests: Serum agglutination test, Complement fixation test, Rose bengal test, ELISA

Bacteriological tests: Cultivation, isolation and identification of bacteria genus *Brucella*

Identification of bacteria (biotype)

Biochemical tests

Agglutination in monospecific antisera

Typing with bacteriophages

Real-time PCR

Vaccination policy

vaccination is not performed

Control program/mechanisms

The control program/strategies in place

National compulsory monitoring programme was organised by the competent authority - State Veterinary and Food Administration of Slovak republic according to „Plan of veterinary prevention and protection of state territory in 2012.“

Notification system in place

In the Slovak Republic there is obligatory to notify about cases at which the suspicion from being happened due to the brucellosis occurrence exists, and such cases are examined by the competent veterinary administration authority.

Results of the investigation

In 2012, in goats there were investigated 14 samples bacteriologically and 909 serologically with no positive result.

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

The disease has never been found in the Slovak Republic.

C. Brucella melitensis in sheep

Status as officially free of ovine brucellosis during the reporting year

The entire country free

The whole territory Slovak Republic is officially free of sheep and goat brucellosis in accordance with Commission Decision No. 97/232/ES.

The disease has never been found in the Slovak Republic.

Free regions

All regions are free of ovine brucellosis.

Monitoring system

Sampling strategy

Examination of individual blood samples serologically

-once a year there are investigated 5% of female animals from each herd over 6 months of age

-once a year all breeding rams

-in case of abort, animals are tested both serologically and bacteriologically

Frequency of the sampling

-once a year according to „Plan of veterinary prevention and protection of state territory in 2012"

-blood samples of the animals in case of abort are tested two times in interval of 21 days

Type of specimen taken

Blood, foetus, placenta

Methods of sampling (description of sampling techniques)

Case definition

An animal is considered to be infected with *Brucella* spp. in case of positive serological test results and the epidemiological situation of the herd indicates the possibility that a brucella infection has been introduced to the herd and in case bacteriological isolation of the agent.

Diagnostic/analytical methods used

According to Council Directive 64/432/EEC and OIE diagnostics techniques:

Serological tests: Serum agglutination test, Complement fixation test, Rose bengal test, ELISA

Bacteriological tests: Cultivation, isolation and identification of bacteria genus *Brucella*

Identification of bacteria (biotype)

Biochemical tests

Agglutination in monospecific antisera

Typing with bacteriophages

Real-time PCR

Vaccination policy

Vaccination is not performed.

Control program/mechanisms

The control program/strategies in place

National compulsory monitoring programme was organised by the competent authority - State Veterinary and Food Administration of Slovak republic according to „Plan of veterinary prevention and protection of state territory in 2012“.

Notification system in place

In the Slovak Republic there is obligatory to notify about cases at which the suspicion from being happened due to the brucellosis occurrence exists, and such cases are examined by the competent veterinary administration authority.

Results of the investigation

In 2012, 298 samples from ewes were investigated bacteriologically and 24157 serologically. No positive sample was recorded.

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

The disease has never been found in the Slovak Republic.

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
Cattle (bovine animals) - at farm - Surveillance	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	58509	0			
Cattle (bovine animals) - at farm - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	3359	0			
Cattle (bovine animals) - at farm - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	546	0			
Deer - wild - fallow deer	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	10	0			
Deer - wild - red deer	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	34	0			
Dogs	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	15	0			
Goats - at farm - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	14	0			
Goats - at farm - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	76	0			
Goats - at farm - Surveillance	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	833	0			
Hares	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	95	0			

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
Mouflons	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	33	0			
Pigs - at farm - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	517	0			
Pigs - at farm - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	130	0			
Pigs - at farm - Surveillance	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	2016	0			
Sheep - at farm - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	1216	0			
Sheep - at farm - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > faeces		Animal	298	0			
Sheep - at farm - Surveillance	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	22941	0			
Solipeds, domestic - horses - at farm - Surveillance	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	25	0			
Solipeds, domestic - horses - at farm - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	7	0			
Solipeds, domestic - horses - at farm - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	21	0			
Wild boars	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	2	0			

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
Zoo animals, all	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	18	0			
	Brucella spp., unspecified										
Cattle (bovine animals) - at farm - Surveillance											
Cattle (bovine animals) - at farm - Surveillance											
Cattle (bovine animals) - at farm - Surveillance											
Deer - wild - fallow deer											
Deer - wild - red deer											
Dogs											
Goats - at farm - Surveillance											
Goats - at farm - Surveillance											
Goats - at farm - Surveillance											
Hares											
Mouflons											
Pigs - at farm - Surveillance											
Pigs - at farm - Surveillance											
Pigs - at farm - Surveillance											

Table Brucellosis in other animals

	Brucella spp., unspecified
Sheep - at farm - Surveillance	
Sheep - at farm - Surveillance	
Sheep - at farm - Surveillance	
Solipeds, domestic - horses - at farm - Surveillance	
Solipeds, domestic - horses - at farm - Surveillance	
Solipeds, domestic - horses - at farm - Surveillance	
Wild boars	
Zoo animals, all	

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 microbiologically	Number of animals positive microbiologically	Number of suspended herds
Slovenská Republika	3689	407697	3689	100	0	0	3163	23299	0	530	0	242	0	0
Total : ¹⁾	3689	407697	3689	100	0	0	3163	23299	0	530	0	242	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.

	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
Region																		Sero logically	BST		
Slovenská Republika	8407	492209	8407	100	0	0	1947	58846	0	0	0	0	1971	0	0	1971	0	0	0	218	0
Total : ¹⁾	8407	492209	8407	100	0	0	1947	58846	0	0	0	0	1971	0	0	1971	0	0	0	218	0

Comments:

¹⁾ N.A.

2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

A. Yersinia enterocolitica general evaluation

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

The monitoring system for Yersinia enterocolitica in the Slovak Republic has not been adopted.

Animals

In 2012 in animals, samples were taken in case of suspicion. Within monitoring 34 official samples of pig carcasses were tested for Yersinia.

Foodstuffs

Only one sample of sushi was investigated in 2012 with negative results

Diagnostical method used: STN EN ISO 10273 (560099)

2.7.2 Yersinia in foodstuffs

Table Yersinia in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Yersinia	Y. enterocolitica	Y. pseudotuberculosis
Other processed food products and prepared dishes - sushi - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
	Yersinia spp., unspecified	Y. enterocolitica - O:3	Y. enterocolitica - O:9	Y. enterocolitica - unspecified							
Other processed food products and prepared dishes - sushi - at catering - Surveillance											

2.7.3 Yersinia in animals

Table Yersinia in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Yersinia	Y. enterocolitica	Y. pseudotuberculosis	Yersinia spp., unspecified
Pigs - fattening pigs - at slaughterhouse - Monitoring	SVFI	Suspect sampling	Official sampling	animal sample > organ/tissue		Animal	34	0			
Cats - pet animals - Clinical investigations	SVFI	Suspect sampling		animal sample > faeces		Animal	22	1			1
Dogs - pet animals - Clinical investigations	SVFI	Suspect sampling		animal sample > faeces		Animal	124	1			1
Monkeys - zoo animal - Clinical investigations	SVFI	Suspect sampling		animal sample > faeces		Animal	2	2			

	Y. enterocolitica - O:3	Y. enterocolitica - O:9	Y. enterocolitica - unspecified	Y. kristensenii
Pigs - fattening pigs - at slaughterhouse - Monitoring				
Cats - pet animals - Clinical investigations				
Dogs - pet animals - Clinical investigations				
Monkeys - zoo animal - Clinical investigations				2

Table Yersinia in animals

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

Trichinellosis has been occurring in Slovakia for many decades as a sporadic disease in humans or in a form of smaller or minor epidemics. Since 1962 in Slovakia there were totally 12 epidemics of trichinellosis, whereas the biggest was in the year 1968. Occurrence of antibodies, eosinophilia and clinical signs were serologically confirmed in 336 patients. The disease agent was typed *Trichinella britovi*, whereas clinical signs were mild and it did not come to a fatal case. Further epidemics in the year 2001 were caused by *Trichinella spiralis*.

Occurrence of trichinellosis in domestic pigs is only sporadic in animal bred for the own need.

Trichinellosis circulates in wildlife out of which wild boar population is the most risky for the transmission of the disease. Products from meat of these animals were not adequately heat-treated, were the most frequent source of the infection in humans. Out of types *Trichinella* spp. circulating in the nature it is mainly *T. britovi* and type *T. spiralis* occurs only rarely.

In the year 2003 on a pig farm *T. pseudospiralis*, was found by which pigs, cats, rats and also birds living on a farm were infected. The farm was gradually liquidated and measures were taken so as to prevent that trichinellae could not get into foodstuffs intended for human consumption.

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

Endemic areas of trichinellosis occurrence are East and Central Slovakia. In 2012 trichinellosis occurred also in West Slovakia after long time.

In 2012, except obligatory meat inspection and examination according Commission Regulation 2075/2005 also monitoring of trichinellosis in foxes was performed. For result see table Trichinellosis in animals.

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

In finding of *Trichinella* spp. in meat of slaughtered animals, the animals carcasses are confiscated and processed in processing (rendering) plant. Upon import of meat in which larvae of trichinellae could have been present (pigs, horses, game), the import either frozen meat or certificate on its examination for trichinellosis are required.

Recent actions taken to control the zoonoses

Control of meat of slaughtered animals is provided in compliance with EU legislation Commission Regulation 2075/2005.

2.8.2 Trichinella in animals

A. Trichinella in horses

Monitoring system

Sampling strategy

For official Trichinella examination the samples as a part of post mortem inspection are systematically taken at a slaughterhouse from each carcass.

Frequency of the sampling

every slaughtered animal is sampled

Type of specimen taken

tongue or diaphragm muscle

Methods of sampling (description of sampling techniques)

taking over 10g of the specimen

Case definition

Positive results - in case of finding Trichinella spp

Diagnostic/analytical methods used

The method of magnetic mixing in digestion of pooled samples

Results of the investigation including the origin of the positive animals

See table Trichinella in animals

Control program/mechanisms

The control program/strategies in place

In the Slovak Republic the monitoring of trichinellosis is performed as a part of post mortem inspection in all solipeds on a slaughterhouse after slaughter. The samples are taken within official controls and in compliance with Regulation (EC) 854/2004 Annex I, Section IV, Chapter IX c. Point 2. and special legal rule for official controls of Trichinella in the meat with Commission Regulation 2075/2005.

Recent actions taken to control the zoonoses

Carcasses and parts of carcasses and slaughter by-products containing the striated musculature from carcasses from which the samples for Trichinella examination were taken, must not leave the premises prior to completion the examination with a negative result. The parts of carcasses not containing the striated musculature are not subject to restriction.

Measures in case of the positive findings or single cases

All positive carcasses and parts shall be judged as unfit for human consumption and removed as a by-product of Category II.

Notification system in place

The official veterinarian shall notify without any delay each confirmed or suspect finding of Trichinella to the competent DVFA and SVFA (notifiable disease).

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

At present no positive cases of trichinellosis in horses have been recorded.

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

The meat from the animals infected with trichinella shall be judged as unfit for human consumption.

B. Trichinella in pigs

Monitoring system

Sampling strategy

General

For official *Trichinella* examination the samples as a part of post mortem inspection are systematically taken at a slaughterhouse from each carcass.

Sampling strategy is in compliance with Commission Regulation 2075/2005.

Frequency of the sampling

General

Every pig slaughtered at slaughterhouse in Slovak Republic is sampled in accredited laboratory according to Commission Regulation 2075/2005.

Every slaughtered wild boar intended to human consumption is sampled in compliance with Commission Decision 2075/2005. Samples are taken immediately after slaughter.

Type of specimen taken

General

Specimen taken is in compliance with Commission Regulation 2075/2005. Diaphragmatic pillar at the place of transition into tendinous part is taken. In case of absence of diaphragmatic pillar the tongue muscle, masseter muscle or abdominal muscle are taken.

Methods of sampling (description of sampling techniques)

General

From the sampling site the samples are taken in amount of at least 1g in fattening pigs from the diaphragmatic pillar at the place of transition into tendinous part and 2g in boars and sows from the equal place. If a predilection place is not available the alternative sample shall be taken. An alternative sample are 2g taken from the costal or sternal part of the diaphragm or from the masseter, tongue or abdominal muscles.

Case definition

General

Positive results - in case of finding *Trichinella* spp.

Diagnostic/analytical methods used

General

The method of magnetic mixing in digestion of pooled samples in compliance with Commission Regulation 2075/2005 is used.

Control program/mechanisms

The control program/strategies in place

In the Slovak Republic the monitoring of trichinellosis is performed as a part of post mortem inspection by taking the samples from the diaphragmatic pillar of each slaughter pig at a slaughterhouse after slaughter. The samples are taken within official controls and in compliance with Regulation (EC) 854/2004 Annex I, Section IV, Chapter IX c. Point 2. and special legal rule for official controls of *Trichinella* in the meat with Commission Regulation 2075/2005.

Recent actions taken to control the zoonoses

Carcasses and parts of carcasses and slaughter by-products containing the striated musculature from carcasses from which the samples for *Trichinella* examination were taken, must not leave the premises prior to completion the examination with a negative result. The parts of carcasses not containing the striated musculature are not subject to restriction.

In the year 2007 the reporting duty of performing home slaughters was introduced. Based on the risk assessment of trichinellosis occurrence in pigs slaughtered in a breeder for domestic consumption and based on results from the previous examinations and monitoring, including wild animals, the samplings were limited only to areas with a positive finding of *Trichinella* sp. in wild animals.

Measures in case of the positive findings or single cases

All positive carcasses and parts shall be judged as unfit for human consumption and removed as a by-product of Category II.

The contingency plan in place

Each DVFA worked out the contingency plan pursuant to Regulation (EC) No.2075/2005 with an overview of measures which shall be taken if the test for *Trichinella* reveals a positive result.

Notification system in place

The official veterinarian shall notify without any delay each confirmed or suspect finding of *Trichinella* to the competent DVFA and SVFA (notifiable disease).

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

See table Trichinellosis in animals

Positive or dubious results:

If the results examined by the reference method are positive or dubious, the further samples from each carcass that was in the original pooled sample shall be taken. These samples shall be mixed to pooled samples to doses 100g/ from 5 pigs. Following detection which pooled sample from 5 pigs is positive or dubious, they shall be taken from the individual pigs and each shall be examined individually by the standard reference digestion method.

The examination of samples is carried out in official laboratories of the District Veterinary and Food Administrations on approved slaughterhouses. All positive samples shall be sent in 90% ethanol into the National Reference Laboratory for PCR typing.

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

Occurrence of trichinellosis in domestic pigs is only sporadic in animal bred for the own need.

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

source of infection)

The meat from the animals infected with trichinella shall be judged as unfit for human consumption

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. britovi
Solipeds, domestic - horses - at slaughterhouse - Surveillance	SVFI, SVI	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	45	0			
Foxes - Monitoring	SVFI, SVI	Selective sampling	Official sampling	animal sample > organ/tissue		Animal	425	42		8	
Raccoon dogs - Monitoring	SVFI, SVI	Selective sampling	Official sampling	animal sample > organ/tissue		Animal	1	0			
Badgers - Monitoring	SVFI, SVI	Selective sampling	Official sampling	animal sample > organ/tissue		Animal	3	0			
Bears - Monitoring	SVFI, SVI	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	26	0			
Pigs - at farm - Monitoring	SVFI, SVI	Selective sampling	Official sampling	animal sample > organ/tissue		Animal	113	0			
Pigs - at slaughterhouse - Surveillance	SVFI, SVI, DVFA	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	689142	0			
Wild boars - Monitoring	SVFI, SVI	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	14377	10		1	7
	T. nativa										
Solipeds, domestic - horses - at slaughterhouse - Surveillance											

Table Trichinella in animals

	T. nativa
Foxes - Monitoring	35
Raccoon dogs - Monitoring	
Badgers - Monitoring	
Bears - Monitoring	
Pigs - at farm - Monitoring	
Pigs - at slaughterhouse - Surveillance	
Wild boars - Monitoring	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

First cases of *Echinococcus multilocularis* in foxes occurred in 1999. Since 2000 monitoring of occurrence and spread of *E. multilocularis* in main host – foxes is carried out.

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

In 2012, 1592 animals were investigated for presence of *Echinococcus* spp with positive finding in 69 animals.

Within monitoring of echinococcosis (*Echinococcus multilocularis*) in red foxes, 425 red foxes were investigated for presence of adult *Echinococcus* with positive findings in 69 samples.

Comparing the previous years, *Echinococcus multilocularis* in foxes was geographically distributed to areas where did not occur in long term.

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

The eggs of *Echinococcus* spp. are spread through definite hosts, dogs, foxes and other carnivora. Contaminated environment, forest fruits, vegetable and non-compliance with hygiene principles are the main risk factors of transmission of this zoonosis. Regular controls of carnivore faeces focused on detection of the presence of adult tapeworms and controls focused on the presence of larval forms in the meat of animals slaughtered in fresh meat establishments are important for determination of risk areas.

Recent actions taken to control the zoonoses

Meat of animals slaughtered in slaughterhouses is subject to the examination for the presence of *Echinococcus* larvocysts within the veterinary inspection in compliance with Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption. Routine diagnostics of dog and other carnivore faeces includes also the examination for the presence of adult tapeworm *Echinococcus*.

Frequency of the sampling

All animals considered as intermediate hosts, slaughtered in slaughterhouses of the SR, are examined for the presence of *Echinococcus* larvocysts.

Type of specimen taken

Faeces or intestine of definite hosts, cysts from intermediate hosts.

Methods of sampling (description of sampling techniques)

Examination of the meat of animals slaughtered in slaughterhouses for the presence of larvocysts by

adspection method.

Fox intestines are sent after the examination for rabies into a laboratory in a frozen state (at -18°C).

Fresh animal faeces is sent directly to a laboratory.

Case definition / definition of a positive finding

The sample is considered to be positive in case of finding tapeworms *Echinococcus* sp. in a definite host or *Echinococcus* larvocyst in intermediate host.

Diagnostic / analytical methods

The meat of slaughtered animals - by adspection method, microscopical examination of larvocyst content

Faeces (intestine content) of carnivora - microscopical examination, flotation examination, PCR

Measures in case of the positive findings or single cases

The meat of positive animals is excluded from the food chain.

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
Pigs - at slaughterhouse - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal		2	0		
Dogs	SVFI, SVI			animal sample		Animal		853	0		
Cats	SVFI, SVI			animal sample		Animal		292	0		
Foxes - Monitoring	SVFI, SVI	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	Slovenská Republika	425	69		69
Leopards - zoo animals - at zoo	SVFI, SVI					Animal		2	0		
Other carnivores - zoo animals - at zoo	SVFI, SVI			animal sample		Animal		18	0		

	Echinococcus spp., unspecified
Pigs - at slaughterhouse - Surveillance	
Dogs	
Cats	
Foxes - Monitoring	
Leopards - zoo animals - at zoo	
Other carnivores - zoo animals - at zoo	

Table Echinococcus in animals

2.10 TOXOPLASMOSIS

2.10.1 General evaluation of the national situation

A. Toxoplasmosis general evaluation

History of the disease and/or infection in the country

Since 2001, the percentage of infestation has increased and a considerable change in the pattern of samples has been recorded. In the past, most samples came from bovine and pig holdings, these categories of animals being gradually misplaced, resulting in a turnover in favour of testing pet animals and small ruminants.

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

In the Slovak Republic, there is no official monitoring program for diagnostics of toxoplasmosis and this zoonosis is not under notifiable diseases. The overview of epizootological situation enables to elaborate disease surveillance for the SR.

In 2012 totally 264 samples were serologically investigated for toxoplasmosis with reaction in 24 samples, it is 9 % positivity.

In cats also 267 of faces were investigated with 1 positive finding.

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

The aim of selective sampling is to prevent disease within the animal breeding in shared households as well as preventive examinations of farm animals intended for human consumption. Before all others, there is a major interest in testing sheep and goats which is related to establishing backyard farms in the countryside and followed by consumption of products thereof. The aim of suspect sampling is testing for dogs and cats because of:

disease occurrence in humans under households and after having undergone treatment for the disease;
presence of pregnant women;
abortion and low viable animal fetuses.

Recent actions taken to control the zoonoses

The preventive measures to be taken depend on the definitive host. Because most cats become infected with tissue cysts and to avoid this fact, cats should be fed dry, heat-treated granules or cooked food.

Setting priorities for human population should be keeping hands clean and not eating any raw meat.

2.10.2 Toxoplasma in animals

Table Toxoplasma in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Analytical Method	Sampling unit	Units tested	Total units positive for Toxoplasma	T. gondii	Toxoplasma spp., unspecified
Goats - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Complement fixation test (CFT)	Animal	5	3	3	
Cats - veterinary clinics - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Complement fixation test (CFT)		74	3	3	
Cats - veterinary clinics - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Latex agglutination test (LAT)		36	7	7	
Cats - veterinary clinics - Clinical investigations ¹⁾	SVFI, SVI	Suspect sampling	Official sampling	animal sample > faeces			Animal	261	1	1	
Cattle (bovine animals) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Latex agglutination test (LAT)	Animal	1	1	1	
Cattle (bovine animals) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Complement fixation test (CFT)	Animal	1	0		
Dogs - veterinary clinics - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Complement fixation test (CFT)	Animal	39	8	8	
Goats - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Complement fixation test (CFT)	Animal	6	0		
Goats - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Latex agglutination test (LAT)	Animal	7	2	2	
Hares - natural habitat - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Complement fixation test (CFT)	Animal	95	0		

Table Toxoplasma in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Analytical Method	Sampling unit	Units tested	Total units positive for Toxoplasma	T. gondii	Toxoplasma spp., unspecified
Zoo animals, all - Clinical investigations ²⁾	SVFI, SVI	Suspect sampling	Official sampling	animal sample > faeces				6	0		

Comments:

¹⁾ flotation method²⁾ flotation method

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 rabies has been well known on the territory of current Slovak Republic for many years. There are existing records originating at the end of 19th century. The first legal provisions about transmissible diseases are recorded in the Article 7 of the Ugrian collection of law from 1888, adopted in the ancient Austrian-Ugrian Kingdom, the part of which was also the territory of the Slovak Republic. These provisions were in force till the beginning of the 50's. After the World War II, the National Assembly of the Czechoslovakia adopted in 1950 the Act No. 187/1950 on improvement of the agriculture, in which the state veterinary service, responsible for all veterinary tasks, including animal health tasks and eradication programmes was established. This act laid down the obligation of notification some diseases, including rabies. However, based on information from the available materials, we may deduce that the obligatory notification was already laid down in the Ugrian collection of law.

The incidence of rabies was after the World War II roughly about of 20% of all tested animals. In the time period of 1953-1974 11.329 animals were tested, out of which 2.268 were rabies positive. The fox incidence presented 70% of all positive animals, what correlated with data collected before the first oral antirabic fox's vaccination programme.

The first oral antirabic fox's vaccination programme started in 1994. This programme ran in two campaigns, one in spring, and the other one in autumn. Fix-wing airplane and by hand application were used as well. For this programme the vaccine baits containing the virus strain Vnukovo 32/107 and SAD Bern was used. In consequence of lack of money that programme was stopped after sixth campaign in 1998. The epidemiological situation of the rabies in wildlife according to established oral vaccination programme was markedly on the mend in 2000 and 2001. Consequently the rise of the immunity status of the fox population has increased the fox density. The fox population density estimated on the number of hunted animals during the programme has been increased from 19.500 to 23.000 foxes in 2001 and very strong in the second half of year 2002 and the first half of year 2003. The number of hunted fox in 2002 was 22.251 animals, what encourages us to estimate the number of fox population of 28 to 30 thousand of animals 0,57- 0,61 fox per square kilometre. This stay of fox population has been related to the comedown of the favourable progress of the rabies situation. During this fast growth of the fox population the increase of rabies positive foxes in such level at first time since beginning the programme has been recorded (107 positive foxes in the 1. quarter of 2003)

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

Rabies in the Slovak Republic is an endemic disease occurring in the silvatic form with decreasing occurrence and the main host and vector species is red fox.

Results of investigation see in table Rabies in animals

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

Recent actions taken to control the zoonoses

National programme of rabies eradication in the Slovak Republic,
mandatory vaccination in domestic carnivores as well as oral antirabic vaccination in wildlife red fox,
identification and registration of pets,
movement control,
Laboratory diagnosis of each suspected domestic animal and control of fulfilment of National programme
by veterinary database.
Laboratory diagnostics within targeted hunting for effectiveness check of vaccine
Laboratory examination of hunted or dead animals with abnormal behaviour
Indicated preventive vaccination of cattle, sheep and goats in rabies outbreaks in wildlife animals before
cattle-run

2.11.2 Lyssavirus (rabies) in animals

A. Rabies in dogs

Monitoring system

Sampling strategy

The sampling is performed in suspected animals (showing abnormal behaviour), in animals which injured people, in animals found dead, in foxes submitted for control of oral vaccination.

Frequency of the sampling

Permanent sampling performed in indicated cases all year round.

Type of specimen taken

whole animal, head with first vertebra

Methods of sampling (description of sampling techniques)

Samples for examination are sent as soon as possible. Before sending it is necessary to store them at temperature up to 40 C, in order to be adequately cooled.

The sample of the whole animal is sent wrapped in PVC bag put into good closed, firm packing with sufficient amount of absorption material preventing leakage of the contents and accompanying with documentation are sent to the State Veterinary Institutes where the samples of brain are taken for investigation. Sample of the head with first vertebra is sent enwrapped into fabric moistened by 0,5% solution of formaline or vinegar. Such enwrapped sample is put into impermeable packing (PVC bag) and then into a firm packing with absorption material.

Case definition

- clinical signs of rabies in animal with anamnesis of contact with rabid animal or human, or unknown animal, which might be rabid, or without anamnesis and laboratory confirmation of rabies

A case of Rabies is defined as a detection of rabies virus antigen or the isolation of rabies virus in the brain of tested animal.

Diagnostic/analytical methods used

ELISA,FAVN,FAT,MIT,RT-PCR,isolation of agent, biological examination on mice

Vaccination policy

mandatory antirabic vaccination of domestic carnivores over three months of age with annual revaccination

Other preventive measures than vaccination in place

movement control system and system of shelters for stray animals

Control program/mechanisms

The control program/strategies in place

In 2012, National programme of rabies eradication in the Slovak Republic in 2012 was valid.

Main purpose of this control program is to retain status of country free of rabies. It's yearly elaborated and updated on the basis of analyses and evaluation of results from previous years.

Monitoring and prevention of rabies were performed according Plan of veterinary prevention and

protection of state territory in 2012.

- mandatory vaccination in domestic carnivores as well as oral antirabic vaccination in wildlife red fox,
- identification and registration of pets, movement control, laboratory diagnosis of each suspected domestic
- animal and control of fulfilment of National programme by veterinary database.

The sampling is performed: in suspected animals (showing abnormal behaviour), in animals which injured people, in animals found dead, in foxes submitted for control of oral vaccination.

Recent actions taken to control the zoonoses

mandatory notification of cases and suspicions, mandatory antirabic vaccination and movement control and co-operation between animal health and human health authorities

Suggestions to the European Union for the actions to be taken

establishing Community register of pet animals for which the Pet Passport has been issued, by which will be the competent authorities able to verify validity of Pet Passport and antirabic vaccination maybe similar to Slovak central register of pets

Measures in case of the positive findings or single cases

The measures are ordered by the District Veterinary and Food Administration in compliance with the Â§ 8, para 3, letter e) of the Act No. 39/2007 Coll.

The respective DVFA at suspicion of rabies occurrence in domestic animals orders to natural and legal persons the measures for control of animal diseases and determines the date for their fulfilment, by which

a) it orders

1. catching of stray animals by professionally eligible natural or legal persons which means a person who following passing an examination before board of examiners finished the training Catching of stray or lost animals at the Institute for Postgraduate Studies in Kosice and obtained a Certificate on Professional eligibility for the performance of catching of lost, abandoned and stray animals or by other person performing this activity under the supervision of professionally eligible natural or legal person,
2. disinfection of the place of killing or death of rabid animal and also thorough disinfection and incineration of all items which could have come into contact with rabid animal,
3. safe disposal of dead and killed animals by rendering plant,
4. isolation and monitoring of all susceptible animals which came or could have come into contact with an animal suspicious of rabies,
5. safe disposal of milk obtained from cows suspicious of rabies and prohibition of the use of products of warm-blooded animals for human consumption and for feeding purposes if these animal came or could have come into contact with an animal suspicious of rabies,
6. obligation to report each case of exposition of people and animals, behaviour changes in domestic animals, death of wildlife in an outbreak and in its nearness,

b) it prohibits

1. movement and collection of susceptible animal species,
2. free movement of susceptible animals in an outbreak,

The respective District Veterinary and Food Administration in case of non-confirmation of rabies occurrence lifts the measures for disease control.

The respective District Veterinary and Food Administration at confirmation of rabies occurrence in domestic animals extends the previous measures for disease control by further measures for disease control and determines to the natural and legal persons the date for their fulfilment by which

a) it defines an rabies outbreak,

b) it orders in an outbreak

1. its marking with warning tables with writing „CAUTION RABIES !“
2. killing of susceptible animals which came into contact with an animal positive to the presence of rabies antigen,

3. to perform the registration of dogs and cats and protective vaccination of dogs, cats and other carnivore over 3 months of age which have not been vaccinated against rabies so far or since the last antirabic vaccination the period longer than 1 year elapsed, provided that they did not come into contact or they did not have the possibility to come into contact with an animal positive to the presence of rabies antigen,
4. to perform protective vaccination of susceptible domestic animals; it will permit to use milk and other products obtained from them for the human consumption and feeding purposes only following gaining the immunity (this period will be stated based on the date of vaccine manufacturer).

Notification system in place

Based on the Act No. 39/2007 Coll. II. each natural or legal person authorized to dispose of live animals is obliged to notify without delay to the veterinary administration authority any suspicion of the disease and death of any animal and to allow examination of such animal.

In case of failing to report any suspicion of the disease, an animals death or failing to allow its examination, is committed.

Results of the investigation

In 2012 there was no case of rabies detected in the Slovak Republic.

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

Rabies in the Slovak Republic is an endemic disease occurring in the silvatic form with decreasing occurrence and the main host and vector species is red fox.

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
Badgers - wild - Surveillance	SVI, SVFI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	3	0		
Bats - wild - Surveillance	SVI, SVFI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	1	0		
Cats - Clinical investigations	SVI, SVFI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	94	0		
Cattle (bovine animals) - at farm - Clinical investigations	SVI, SVFI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	2	0		
Deer - wild - roe deer - Surveillance	SVI, SVFI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	1	0		
Dogs - Clinical investigations	SVI, SVFI	Objective sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	148	0		
Foxes - wild - Control and eradication programmes	SVI, SVFI	Objective sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	3104	0		
Foxes - wild - Control and eradication programmes	SVI, SVFI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	267	0		
Goats - at farm - Clinical investigations	SVI, SVFI	Objective sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	1	0		
Hedgehogs - wild - Surveillance	SVI, SVFI	Objective sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	2	0		
Marten - wild - Surveillance	SVI, SVFI	Objective sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	6	0		

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
Mice - wild - Surveillance	SVI, SVFI	Objective sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	2	0		
Other animals - wild - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	2	0		
Owls - wild - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	1	0		
Pigs - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	1	0		
Rabbits - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	2	0		
Raccoon dogs - wild - Surveillance	SVFI, SVI	Objective sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	5	0		
Rats - wild - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	9	0		
Rodents - pet animal - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	5	0		
Rodents - wild - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	4	0		
Sheep - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	2	0		
Squirrels - wild - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	2	0		
Wild boars - wild - Surveillance	SVFI, SVI	Suspect sampling	Official sampling	animal sample > brain		Animal	Slovenská Republika	5	0		

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Badgers - wild - Surveillance		
Bats - wild - Surveillance		
Cats - Clinical investigations		
Cattle (bovine animals) - at farm - Clinical investigations		
Deer - wild - roe deer - Surveillance		
Dogs - Clinical investigations		
Foxes - wild - Control and eradication programmes		
Foxes - wild - Control and eradication programmes		
Goats - at farm - Clinical investigations		
Hedgehogs - wild - Surveillance		
Marten - wild - Surveillance		
Mice - wild - Surveillance		
Other animals - wild - Surveillance		
Owls - wild - Surveillance		
Pigs - at farm - Clinical investigations		
Rabbits - at farm - Clinical investigations		
Raccoon dogs - wild - Surveillance		

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Rats - wild - Surveillance		
Rodents - pet animal - Clinical investigations		
Rodents - wild - Surveillance		
Sheep - at farm - Clinical investigations		
Squirrels - wild - Surveillance		
Wild boars - wild - Surveillance		

2.12 STAPHYLOCOCCUS INFECTION

2.12.1 General evaluation of the national situation

2.12.2 Staphylococcus in foodstuffs

A. Staphylococcus in Food

Monitoring system

Diagnostic/analytical methods used

- STN EN ISO 6888-1
- STN EN ISO 6888-1/A1

Table Staphylococcus in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample > milk		Single	10 g	16	1		
Milk, goats' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample > milk		Single	10 g	2	1		
Cheeses made from cows' milk - hard - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	1	0		
Confectionery products and pastes - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	17	5		
Confectionery products and pastes - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	6	0		
Confectionery products and pastes - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	17	0		
Confectionery products and pastes - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	420	8		
Dairy products (excluding cheeses) - dairy desserts - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	5	0		
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	202	0		
Fishery products, unspecified - cooked - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	3	0		
Fishery products, unspecified - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	28	0		

Table Staphylococcus in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at hospital or care home - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	1 ml	133	31		
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Single	10 g	1	0		
Infant formula - dried - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Single	10 g	10	0		
Infant formula - dried - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Batch	10 g	70	0		
Infant formula - dried - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	5	0		
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	4	0		
Infant formula - liquid - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	1	0		
Infant formula - ready-to-eat - at hospital or care home - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 ml	3	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	5	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	13	0		
Meat from bovine animals - meat products - cooked, ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	13	0		
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	53	1		
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	15	0		

Table Staphylococcus in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Meat from pig - meat products - cooked, ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	47	0		
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	35	0		
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	1	0		
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	134	0		
Other processed food products and prepared dishes - at processing plant - Surveillance	PHA	Objective sampling	HACCP and own checks	food sample		Single	10 g	6	0		
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	186	0		
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	85	0		
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	8	0		
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	118	1		
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	408	2		

Table Staphylococcus in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Other processed food products and prepared dishes - noodles - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	9	0		
Other processed food products and prepared dishes - noodles - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	5	0		
Other processed food products and prepared dishes - pasta - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	25	0		
Other processed food products and prepared dishes - pasta - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	95	0		
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	80	0		
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	29	0		
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	15	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	15	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	15	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance	PHA	Suspect sampling	Official sampling	food sample		Batch	10 g	5	0		
Other processed food products and prepared dishes - sushi - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	24	2		

Table Staphylococcus in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Other processed food products and prepared dishes - sushi - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	17	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	41	2		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	141	2		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	172	3		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	2	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	10	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	15	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	424	2		
Ready-to-eat salads - containing mayonnaise - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	1	1		
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	272	3		

Table Staphylococcus in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Sauce and dressings - mayonnaise - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	21	0		
Soups - ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	26	0		
Vegetables - non-pre-cut - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	18	0		
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	15	0		
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	111	5		
Vegetables - pre-cut - ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	20	0		
Vegetables - pre-cut - ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	14	0		
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	141	0		
	S. aureus, meticillin resistant (MRSA) - spa-type t108	S. aureus, meticillin resistant (MRSA) - spa-type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified							
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Monitoring				1							
Milk, goats' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Monitoring				1							

Table Staphylococcus in Food

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Cheeses made from cows' milk - hard - at catering - Monitoring				
Confectionery products and pastes - at processing plant - Monitoring				5
Confectionery products and pastes - at processing plant - Surveillance				
Confectionery products and pastes - at retail - Surveillance				
Confectionery products and pastes - at retail - Surveillance				8
Dairy products (excluding cheeses) - dairy desserts - at catering - Monitoring				
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - Surveillance				
Fishery products, unspecified - cooked - at catering - Surveillance				
Fishery products, unspecified - ready-to-eat - at catering - Monitoring				
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at hospital or care home - Monitoring				31
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - Monitoring				
Infant formula - dried - at retail - Monitoring				

Table Staphylococcus in Food

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Infant formula - dried - at retail - Monitoring				
Infant formula - dried - at retail - Surveillance				
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance				
Infant formula - liquid - at retail - Surveillance				
Infant formula - ready-to-eat - at hospital or care home - Monitoring				
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Monitoring				
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Monitoring				
Meat from bovine animals - meat products - cooked, ready-to-eat - at catering - Surveillance				
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Monitoring				1
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Monitoring				
Meat from pig - meat products - cooked, ready-to-eat - at catering - Surveillance				
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring				

Table Staphylococcus in Food

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococ- cus spp., unspecified
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Monitoring				
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance				
Other processed food products and prepared dishes - at processing plant - Surveillance				
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Monitoring				
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Monitoring				
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Surveillance				
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Surveillance				1
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - Surveillance				2
Other processed food products and prepared dishes - noodles - at catering - Monitoring				
Other processed food products and prepared dishes - noodles - at catering - Monitoring				

Table Staphylococcus in Food

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococ- cus spp., unspecified
Other processed food products and prepared dishes - pasta - at catering - Surveillance				
Other processed food products and prepared dishes - pasta - at catering - Surveillance				
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance				
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring				
Other processed food products and prepared dishes - sandwiches - with meat - at processing plant - Monitoring				
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Monitoring				
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Monitoring				
Other processed food products and prepared dishes - sandwiches - with meat - at retail - Surveillance				
Other processed food products and prepared dishes - sushi - at catering - Monitoring				2
Other processed food products and prepared dishes - sushi - at catering - Surveillance				

Table Staphylococcus in Food

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococ- cus spp., unspecified
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring				2
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring				2
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance				3
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Monitoring				
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at hospital or care home - Surveillance				
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Monitoring				
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance				2
Ready-to-eat salads - containing mayonnaise - at catering - Monitoring				1
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance				3
Sauce and dressings - mayonnaise - at catering - Surveillance				

Table Staphylococcus in Food

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Soups - ready-to-eat - at catering - Surveillance				
Vegetables - non-pre-cut - at retail - Surveillance				
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring				
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring				5
Vegetables - pre-cut - ready-to-eat - at catering - Surveillance				
Vegetables - pre-cut - ready-to-eat - at catering - Surveillance				
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance				

2.12.3 Staphylococcus in animals

A. Staphylococcus in Animals

Monitoring system

Sampling strategy

Positive isolates tested for antimicrobial profile were came from routine clinical examinations.

The test collection consisted of 300 isolates of *Staphylococcus aureus*. In none of them was confirmed presence of *mecA* respectively *mecC* gene.

The monitoring system for *Staphylococcus* in the Slovak republic has not been adopted.

Samples were tested for presence of *Staphylococcus aureus*. During testing the antimicrobial profile of positive isolates of *Staphylococcus aureus* is also tested antibiotic ceftiofur, as the main indicator of resistance to methicillin. In the case of a positive response to the level of phenotype isolate is then tested for the presence of *mecA* and *MECCA* genes encoding resistance to methicillin.

Table Staphylococcus in Animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Cats - pet animals	SVFI	Objective sampling		animal sample		Animal		8	0		
Cattle (bovine animals) - calves (under 1 year) - at farm	SVFI	Objective sampling		animal sample		Animal		3	0		
Cattle (bovine animals) - dairy cows - at farm	SVFI, SVI	Objective sampling		animal sample > milk		Animal		130	0		
Chinchillas - farmed - at farm	SVFI	Objective sampling		animal sample		Animal		1	0		
Dogs - pet animals	SVFI	Objective sampling		animal sample > faeces		Animal		5	0		
Dogs - pet animals	SVFI, SVI	Objective sampling		animal sample		Animal		133	0		
Dogs - pet animals	SVFI	Objective sampling		animal sample > organ/tissue		Animal		2	0		
Gallus gallus (fowl) - broilers - day-old chicks - at farm	SVFI	Objective sampling		animal sample > organ/tissue		Animal		3	0		
Goats - animals over 1 year - at farm	SVFI	Objective sampling		animal sample > milk		Animal		6	0		
Pigs - fattening pigs - at farm	SVFI, SVI	Objective sampling		animal sample		Animal		7	0		
Sheep - milk ewes - at farm	SVFI	Objective sampling		animal sample > milk		Animal		2	0		

	S. aureus, meticillin resistant (MRSA) - spa-type t108	S. aureus, meticillin resistant (MRSA) - spa-type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified
Cats - pet animals			

Table Staphylococcus in Animals

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified
Cattle (bovine animals) - calves (under 1 year) - at farm			
Cattle (bovine animals) - dairy cows - at farm			
Chinchillas - farmed - at farm			
Dogs - pet animals			
Dogs - pet animals			
Dogs - pet animals			
Gallus gallus (fowl) - broilers - day-old chicks - at farm			
Goats - animals over 1 year - at farm			
Pigs - fattening pigs - at farm			
Sheep - milk ewes - at farm			

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

Q-fever in Slovak Republic occurs and monitoring is carried out according „Plan of veterinary prevention and protection of state territory “in cows and goats.

In 2012, samples were taken:

- within the framework of „Plan of veterinary prevention and protection of state territory in 2012“ in cows and goats in case of abortion.
- in case of suspicion for disease or on base of clinical signs.

2.13.2 Coxiella (Q-fever) in animals

A. C. burnetii in animal

Monitoring system

Sampling strategy

Samples were taken according „Plan of veterinary prevention and protection of state territory in 2012“ in cows and in goats.

Blood samples were investigated serologically in case of abortion and in case of suspicion for disease or on base of clinical signs.

Frequency of the sampling

Samples are taken in case of abort and animals are tested two times in interval of 21 days.

Type of specimen taken

Blood

Diagnostic/analytical methods used

serological: CFT

Results of the investigation

See table .Coxiella burnetii 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 <i>Coxiella</i> (Q-fever)	<i>C. burnetii</i>	No of clinically affected herds
Cattle (bovine animals) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > blood		Complement fixation test (CFT)	Animal	57	0		
Cattle (bovine animals) - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Complement fixation test (CFT)	Animal	3274	78	78	
Sheep - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > blood		Complement fixation test (CFT)	Animal	3	0		
Sheep - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Complement fixation test (CFT)	Animal	46	0		
Goats - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Complement fixation test (CFT)	Animal	116	0		
Cats - veterinary clinics - Clinical investigations	SVFI			animal sample > blood		Complement fixation test (CFT)	Animal	1	0		
Dogs - veterinary clinics - Clinical investigations	SVFI			animal sample > blood		Complement fixation test (CFT)	Animal	2	0		
Hares - from hunting - Monitoring	SVFI			animal sample > blood		Complement fixation test (CFT)	Animal	95	0		

2.14 WEST NILE VIRUS INFECTIONS

2.14.1 General evaluation of the national situation

2.14.2 West Nile Virus in animals

A. West Nile Virus in Animals

Monitoring system

Sampling strategy

According „Plan of veterinary prevention and protection of state territory in 2012“ monitoring of the epidemiological situation through monitoring of West Nile virus fever antibodies in horses. Detection of postinfection antibodies was performed within targeted intravital diagnostics in horses and the targeted intravital diagnosis of suspected CNS disease.

In horse holdings the breeding stallions prior to and after the completion of a mating season, mares prior to mating, sport and production horses used for the breeding and animals with suspicion of the disease of CNS were examined.

In farmed red deer the animals prior to movement were examined.

Type of specimen taken

Blood

Diagnostic/analytical methods used

ELISA IgM

ELISA IgG

Real-time RT-PCR

Results of the investigation

See table.

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

West Nile Fever virus was never isolated. Presence of virus was detected only serologically in 24 horses and 3 red deers.

Table West Nile Virus in Animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Vaccination status	Analytical Method	Sampling unit	Region	Units tested	Total units positive for West Nile Virus
Solipeds, domestic - horses - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Unknown		Animal	Slovenská Republika	2	0
Deer - farmed - red deer - at farm - Monitoring	SVI	Objective sampling	Official sampling	animal sample > blood		Unknown		Animal	Slovenská Republika	12	3
Solipeds, domestic - horses - at farm - Monitoring	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Unknown		Animal	Slovenská Republika	502	24

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	

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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. Cronobacter in foodstuffs

Monitoring system

Sampling strategy

Public Health Authority of the Slovak Republic and District Public Health Authorities carry out official food control according Act on foodstuffs 152/1995 which set the target control of food. Samples taken in compliance with this target plan are investigated in accredited laboratories for analyses for *Enterobacter sakazakii*.

Samples are taken from pharmacies, distribution chain and during producing.

Frequency of the sampling

- in accordance with target plan

Type of specimen taken

foodstuffs for children, infant formula

Diagnostic/analytical methods used

ISO/DTS 22964 Detection of *Enterobacter sakazakii*

Results of the investigation

1 samples were positive for presence of *Enterobacter sakazakii* in 2012.

Table Cronobacter in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Cronobacter	Cronobacter sakazakii	Cronobacter spp, unspecified
Infant formula - dried - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	181	0		
Foodstuffs intended for special nutritional uses - dried dietary foods for special medical purposes intended for infants below 6 months - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	2	0		
Foodstuffs intended for special nutritional uses - dried dietary foods for special medical purposes intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	38	0		
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	2	0		
Infant formula - dried - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	98	1	1	
Infant formula - dried - intended for infants below 6 months - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Single	10 g	28	0		
Infant formula - dried - intended for infants below 6 months - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Imported from outside EU	Batch	10 g	70	0		
Infant formula - liquid - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	1	0		
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	2	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

All samples of foodstuffs were taken according The Commission Decision 2073/2005 and the direction of State Veterinary and Food Administration and according to work out a plan taking of samples

Diagnostic/analytical methods used

HPLC

Preventive measures in place

in case of pass limit for histamine in foodstuff - retire from market network as a unfit for human consumption

Results of the investigation

See table Histamin in foodstuffs.

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 matured - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	5	0	5	
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0	0	1
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample	Imported from outside EU	Batch	10 g	17	0	17	
										>200 - <= 400 mg/kg	> 400 mg/kg
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at processing plant - Surveillance											
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - Surveillance											
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - Surveillance											

Table Histamine in food

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

A. Staphylococcal enterotoxins general evaluation

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

In 2012, samples of other processed food products and prepared dishes were the most tested for presence of staphylococcal enterotoxin with positive results in 9 samples (ready-to-eat, ice creams and sandwiches). The second largest group was chesses made from sheep's milk with 1 positive result. Other positive findings were detected in ready-to-eat salads (3x), in fruits and vegetables (2x), pork meat preparations (1x) and in soft drinks (1x).

Comparing with previous years, there was a slight increase in the number of samples examined.

4.3.2 Staphylococcal enterotoxins in foodstuffs

A. Staphylococcal enterotoxins in foodstuffs

Monitoring system

Sampling strategy

Authorities in Slovakia. Samples comprised of official samples taken by inspectors of veterinary and food administrations and public health authorities according to the valid rules for the year.

All samples were examined by valid international methods for determination of number of coagulase positive staphylococci (STN EN ISO 6888-1 and 6888-2) and the presence of enterotoxins (Official methods for laboratory diagnostics of food and feed, Part Microbiology: M15, M41, M50 and the European screening method - May 2006 as amended and supplemented - November 2007). The samples comprised of one sampling unit or 5 sampling units according to requirements of an applicant and according to the quantity of sample taken.

Samples were taken according sampling plan by inspectors of DVFA and DPHA and in case of suspicions. Most data concerning the genus *Staphylococcus* and staphylococcal enterotoxins have a link with milk and milk products and processed food. Among the most frequent commodities containing exceeding numbers of coagulase positive staphylococci belonged sheep cheeses, ready-to-eat salads and dishes.

Frequency of the sampling

according to sampling plan

Type of specimen taken

according Commission Decision 2075/2005

Definition of positive finding

demonstration of presence of enterotoxin

Diagnostic/analytical methods used

Detection of staphylococcal enterotoxins types SEA to SEE in alltypes of food matrices - European screening method of the EU-RL for "COAGULASE POSITIVE STAPHYLOCOCCI, INCLUDING STAPHYLOCOCCUS AUREUS ", Version 5, September 2010
STN EN ISO 6888-1, 6888-2

Preventive measures in place

In case of positive finding all foodstuffs are judged as unfit for human consumption.
retire of foodstuffs from market network

Measures in case of the positive findings or single cases

In case of positive finding all foodstuffs are judged as unfit for human consumption.

Notification system in place

Rapid Alert System

Results of the investigation

See table Staphylococcal enterotoxins in foodstuffs

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 cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	11	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0
Cheeses made from sheep's milk - hard - made from pasteurised milk - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	1	1
Beverages, non-alcoholic - soft drinks - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	250 ml	1	1
Cheeses made from cows' milk - curd - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	3	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Domestic	Batch	25 g	1	0
Confectionery products and pastes - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Batch	10 g	1	0
Confectionery products and pastes - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	4	0

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
Confectionery products and pastes - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	1	0
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at hospital or care home - Monitoring	PHA	Objective sampling	HACCP and own checks	food sample		Single	25 ml	271	0
Fruits and vegetables - non-pre-cut - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	1	1
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	1	1
Milk, sheep's - raw milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 ml	1	0
Other processed food products and prepared dishes - ices and similar frozen desserts - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 ml	7	3
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	2	0
Other processed food products and prepared dishes - sandwiches - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	13	3
Other processed food products and prepared dishes - sushi - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	2	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	4	1
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	1	1

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
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	8	1
Ready-to-eat salads - containing mayonnaise - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	6	2
Ready-to-eat salads - containing mayonnaise - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	1	1
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample	Domestic	Batch	25 g	1	0
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample	Domestic	Single	10 g	5	1

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, epidemiological investigations and reporting of foodborne outbreaks

Food-borne outbreaks are reported by physicians and by microbiological laboratories to the department of Epidemiology of Public Health Authorities. Regional epidemiologists provide investigation, organise anti-epidemic actions including food investigation that is suspected as factor of transmission.

Description of the types of outbreaks covered by the reporting:

There are reported all types of outbreaks: small outbreaks included family outbreak and small local outbreaks (2-5 cases), general outbreaks and bigger household outbreaks (6 and more cases).

All verified with strong evidence and possible with weak evidence of food-borne outbreaks are reported.

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

In year 2012 there were recorded 790 foodborn outbreaks with 2668 cases. From 790 outbreaks, there were 5 verified outbreaks with strong evidence – 0,6% (total cases 162).

From all cases in outbreaks: salmonellosis – 53,5% cases, campylobacteriosis – 18,7% cases, unknown causative agent – 8,3% cases, norovirus – 3,9% cases, viral hepatitis A – 1,5% cases, other viruses 8,6% and staphylococcal enterotoxin – 0,2% cases.

From all outbreaks: salmonellosis represent– 51,7%, campylobacteriosis – 24,9%, unknown causative agent – 7,5%, staphylococcal enterotoxin – 0,25% and viral hepatitis A – 0,9%.

Outbreaks of salmonellosis: Trend is increased, the number of cases increased in comparison with year 2011 about 26,7%, (1427 in 2012 vs. 1126 cases in 2011). There were reported 408 small and bigger outbreaks, when were affected 1427 people. From them 372 outbreak were small (2-5 cases) and 990 people were affected. We reported 32 bigger outbreak (6-76 cases) with 470 affected people. ..

Outbreaks of campylobacteriosis: In 2012 there were recorded 197 outbreaks about 7 more than in 2011, when were affected 500 persons. There were reported 192 small mostly family outbreaks, when were affected 467 persons a 5 general outbreaks (33 cases). Trend is stable.

Outbreak with unknown agent: 59 outbreaks were reported, when were affected 222 persons. Trend is decreased in the number of cases. (596 in 2011 vs. 222 in 2012).

Staphylococcus enterotoxin: 2 small outbreaks, 6 affected persons within this outbreak were recorded.

Food-borne viruses: There were reported 7 outbreak of viral hepatitis A in year 2012 – 40 cases. All outbreaks were born in areas with low hygienic condition and diseases were spread by close contact. Foods were not suspected as factor of transmission.

Slovakia reported 2 outbreaks TBE, Transmission factor in both outbreak was sheep cheese. One outbreak was verified, veterinary investigation proofed that goats and seeps were positive (TBE specific ELISA IgG and IgM posit).

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

The main causative agent in outbreak of salmonellosis is *Salmonella enteritidis*. Outbreaks caused by *Salmonella typhimurium* are rare (6,3%). The most risky are finished foodstuff from raw eggs, poultry meat.

Food-borne outbreaks caused by *Campylobacter* have increased trend. The most risky are foods from the chicken, turkey and non-pasteurised sheep and goat milk and products from it, mainly fresh cheese.

Relevance of the different type of places of food production and preparation in outbreaks

Salmonella enteritidis – mainly households (family celebrations), commercial restaurant, canteens and school canteens

Unknown agents – hospital/medical care facilities, nursery houses, canteens and school canteens

Campylobacteriosis - mainly households.

Evaluation of the severity and clinical picture of the human cases

No cases of death were recorded during outbreaks. In all 790 outbreaks there were reported 2668 cases, from which 724 cases were hospitalised (27,3%). Proportion of hospitalized patients increased about 8,4%.

Descriptions of single outbreaks of special interest

In June 2012 a cluster of 12 TBE cases was identified in southern Slovakia Initial investigations revealed a possible link with consumption of goat and sheep milk products.

Description of outbreak – epidemiological data:

Number of cases: 12

Number of exposed: 12

Attack rate: 100%

Place of outbreak: district Lučenec –village Budiná

Known endemic area Abelova is located very nearby (10km)

Onset of 1.case June 2012, onset of last case

Date of reporting: 18.June 2012

Age of patients: means 63,2 (min 12, max 87 years)

Clinical symptoms: headache, temperature 38 °C and higher, pain of joints

Number of hospitalized cases: 12, mean 10,9 days(min 7, max. 21 days)

Epidemiological investigation:

Suspected factor of transmission: sheep and goat milk products (cheese)

Risk factor: unpasteurized milk and undercooked process of cheese production

Origin of products: private sheep farm without authorization

Laboratory results:

•Humans:

Slovakia - 2012 Report on trends and sources of zoonoses

All cases were laboratory confirmed - IgM, IgG TBE positive (ELISA).

•Animals .

Goats:2 blood samples negative (1suspected).

Sheeps: 50 blood samples, 9 positive results (25 suspected) (ELISA IgG,ELISA IgM).

Milk from sheep and goats and cheese samples tested negative for the TBE virus.

Control measures or other actions taken to improve the situation

Control measures aimed at elimination of imperfections.

Suggestions to the European Union for the actions to be taken

Regarding the salmonellosis and campylobacteriosis outbreaks especially in households, we suggest to increase the healthy awareness of population by all type of media way.

Table Foodborne Outbreaks: summarised data

	Weak evidence or no vehicle outbreaks				Strong evidence Number of Outbreaks	Total number of outbreaks
	Number of outbreaks	Human cases	Hospitalized	Deaths		
Salmonella - S. Typhimurium	42	111	27	0	0	42
Salmonella - S. Enteritidis	340	1055	191	0	4	344
Salmonella - Other serovars	22	111	6	0	0	22
Campylobacter	197	500	66	0	0	197
Listeria - Listeria monocytogenes	0	unknown	unknown	unknown	0	0
Listeria - Other Listeria	0	unknown	unknown	unknown	0	0
Yersinia	2	4	0	0	0	2
Escherichia coli, pathogenic - Verotoxigenic E. coli (VTEC)	0	unknown	unknown	unknown	0	0
Bacillus - B. cereus	0	unknown	unknown	unknown	0	0
Bacillus - Other Bacillus	0	unknown	unknown	unknown	0	0
Staphylococcal enterotoxins	2	6	1	0	0	2
Clostridium - Cl. botulinum	0	unknown	unknown	unknown	0	0
Clostridium - Cl. perfringens	0	unknown	unknown	unknown	0	0

	Weak evidence or no vehicle outbreaks				Strong evidence Number of Outbreaks	Total number of outbreaks
	Number of outbreaks	Human cases	Hospitalized	Deaths		
Clostridium - Other Clostridia	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Brucella	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Shigella	31	116	30	0	0	31
Other Bacterial agents - Other Bacterial agents	2	4	2	0	0	2
Parasites - Trichinella	0	unknown	unknown	unknown	0	0
Parasites - Giardia	0	unknown	unknown	unknown	0	0
Parasites - Cryptosporidium	0	unknown	unknown	unknown	0	0
Parasites - Anisakis	0	unknown	unknown	unknown	0	0
Parasites - Other Parasites	1	3	0	0	0	1
Viruses - Norovirus	5	104	0	0	0	5
Viruses - Hepatitis viruses	7	40	39	0	0	7
Viruses - Other Viruses	75	230	184	0	1	76
Other agents - Histamine	0	unknown	unknown	unknown	0	0
Other agents - Marine biotoxins	0	unknown	unknown	unknown	0	0
Other agents - Other Agents	0	unknown	unknown	unknown	0	0

Unknown agent

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

Table Foodborne Outbreaks: detailed data for Salmonella

Please use CTRL for multiple selection fields

S. Enteritidis

Value

FBO Code	A02.0
Number of outbreaks	1
Number of human cases	76
Number of hospitalisations	21
Number of deaths	0
Food vehicle	Pig meat and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence; Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Canteen or workplace catering
Origin of food vehicle	Domestic
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

Value

FBO Code	A02.0
Number of outbreaks	1
Number of human cases	11
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence;Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Household / domestic kitchen
Origin of food vehicle	Domestic
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

Value

FBO Code	A02.0
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	4
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence;Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Household / domestic kitchen
Origin of food vehicle	Domestic
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

Value

FBO Code	A02.0
Number of outbreaks	1
Number of human cases	57
Number of hospitalisations	5
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence; Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Farm (primary production)
Origin of food vehicle	Domestic
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Viruses

Please use CTRL for multiple selection fields

Flavivirus

Value

FBO Code	A84.1
Number of outbreaks	1
Number of human cases	12
Number of hospitalisations	12
Number of deaths	0
Food vehicle	Cheese
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Farm (primary production)
Origin of food vehicle	Domestic
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	