

SLOVAKIA

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

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

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

IN 2011

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Slovakia

Reporting Year: 2011

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 excersize 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 2011 .

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

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

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

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

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

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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 2011

Table Susceptible animal populations

* Only if different than current reporting year

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Cattle (bovine animals)	- in total			47537		471422		22748	
Gallus gallus (fowl)	breeding flocks, unspecified - in total	90				1607135			
	laying hens	291		588099		7043259			
	broilers	1679		40901486		34922159		180	
	- in total	2060		41489585		43572553			
Goats	- in total			33		9890		2232	
Pigs	- in total			674352		479266		7490	
Sheep	- in total			79321		406460		7008	
Solipeds, domestic	horses - in total					10404		1977	
Turkeys	meat production flocks	52				132587			
	breeding flocks, unspecified - in total	32				44250			
	- in total	84		13973		176837			

Table Susceptible animal populations

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 if 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.

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 work out a plan taking of samples

Diagnostic/analytical methods used

Bacteriological method: STN EN ISO 6579/A1:2008

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 if 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.

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.

Results of the investigation

In 2011 there were investigated 9737 samples of foodstuffs with positive findings in 30 samples (0,3%). The highest incidence of salmonella is recorded in confectionery products and pastas with 12 positive findings and in tea 8 positive findings.

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 (<i>Gallus gallus</i>) - carcase - at slaughterhouse - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	15	0		
Meat from broilers (<i>Gallus gallus</i>) - fresh - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Meat from broilers (<i>Gallus gallus</i>) - fresh - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	7	0		
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
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		
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	37	0		
Meat from broilers (<i>Gallus gallus</i>) - meat products - raw but intended to be eaten cooked - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	6	0		
Meat from broilers (<i>Gallus gallus</i>) - minced meat - intended to be eaten cooked - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Meat from broilers (<i>Gallus gallus</i>) - minced meat - intended to be eaten cooked - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	9	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 - carcase - at slaughterhouse - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
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	3	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - chilled - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	25	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	30	4		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - frozen - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - frozen - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - frozen - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	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 broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	3	0		
Meat from broilers (<i>Gallus gallus</i>) - mechanically separated meat (MSM) - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	4	0		
Meat from broilers (<i>Gallus gallus</i>) - mechanically separated meat (MSM) - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	1	0		
Meat from poultry, unspecified - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from poultry, unspecified - fresh - frozen - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Meat from poultry, unspecified - fresh - frozen - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance	PHA		Official sampling	food sample		Single	25 g	5	0		
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance	PHA		Official sampling	food sample		Batch	25 g	1	0		
Meat from turkey - meat products - raw but intended to be eaten cooked - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Meat from turkey - mechanically separated meat (MSM) - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	3	0		
Meat from turkey - minced meat - intended to be eaten cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		

Table Salmonella in poultry meat and products thereof

	Salmonella spp., unspecified	S. Agona	S. Infantis
Meat from broilers (<i>Gallus gallus</i>) - carcass - at slaughterhouse - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - fresh - at processing plant - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - fresh - at retail - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - at retail - Surveillance			
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			
Meat from broilers (<i>Gallus gallus</i>) - meat products - raw but intended to be eaten cooked - at retail - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - minced meat - intended to be eaten cooked - at processing plant - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - minced meat - intended to be eaten cooked - at retail - Surveillance			

Table Salmonella in poultry meat and products thereof

	Salmonella spp., unspecified	S. Agona	S. Infantis
Meat from turkey - carcase - at slaughterhouse - 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 (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - at retail - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - chilled - at processing plant - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance		2	3
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - frozen - at processing plant - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - frozen - at retail - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - frozen - at retail - Surveillance			

Table Salmonella in poultry meat and products thereof

	Salmonella spp., unspecified	S. Agona	S. Infantis
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at retail - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - mechanically separated meat (MSM) - at processing plant - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - mechanically separated meat (MSM) - at retail - Surveillance			
Meat from poultry, unspecified - at retail - Surveillance			
Meat from poultry, unspecified - fresh - frozen - at processing plant - Surveillance			
Meat from poultry, unspecified - fresh - frozen - at retail - Surveillance			
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			
Meat from turkey - meat products - raw but intended to be eaten cooked - at retail - Surveillance			
Meat from turkey - mechanically separated meat (MSM) - at processing plant - Surveillance			
Meat from turkey - minced meat - intended to be eaten cooked - at retail - Surveillance			

Table Salmonella in poultry meat and products thereof

Table Salmonella in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Milk, goats' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample > milk		Single	25 ml	1	0		
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
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	2	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	14	0		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	SVFI, PHA	Objective sampling	Official sampling	food sample		Batch	25 g	19	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	125	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	8	0		
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	6	0		
Dairy products (excluding cheeses) - ice-cream - made from raw or low heat-treated milk - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	52	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 raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	115	0		
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance	SVPU	Objective sampling	Official sampling	food sample		Batch	25 g	8	0		
Dairy products (excluding cheeses) - milk powder and whey powder - at retail - Surveillance	SVFI, PHA	Objective sampling	Official sampling	food sample		Batch	25 g	10	0		
Cheeses made from cows' milk - hard - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	3	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	9	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	9	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	23	0		
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	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 - unspecified - made from pasteurised milk - at retail - Surveillance	SVFI	Selective 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	Selective 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	Suspect 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 retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	35	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - 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	21	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - 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	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 mixed milk from cows, sheep and/or goats - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	21	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	2	0		
Cheeses, made from unspecified milk or other animal milk - curd - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
Cheeses, made from unspecified milk or other animal milk - soft and semi-soft - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	5	0		
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	15	0		
Dairy products (excluding cheeses) - dairy desserts - chilled - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Dairy products (excluding cheeses) - dairy desserts - chilled - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	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 products, not specified - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	12	0		
Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	34	0		
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 ml	3	0		
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 ml	2	0		
Dairy products (excluding cheeses) - fermented dairy products - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 ml	1	0		
Dairy products (excluding cheeses) - ice-cream - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	6	0		
Dairy products (excluding cheeses) - ice-cream - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Dairy products (excluding cheeses) - ice-cream - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	327	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 - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	602	0		
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	24	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		Batch	25 g	167	0		
Dairy products (excluding cheeses) - sour milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 ml	8	0		
Dairy products (excluding cheeses) - sour milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 ml	2	0		
Dairy products (excluding cheeses) - yoghurt - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	8	0		
Dairy products (excluding cheeses) - yoghurt - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Dairy products (excluding cheeses) - yoghurt - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
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	25 g	140	0		
Infant formula - dried - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	139	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
Infant formula - dried - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	29	0		
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	55	0		
Infant formula - ready-to-eat - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	13	0		
Milk, cows' - pasteurised milk - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 ml	4	0		
Milk, cows' - raw milk - at farm - Surveillance	PHA	Objective sampling	Official sampling	food sample > milk		Single	25 ml	1	0		
Milk, cows' - raw milk - at farm - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk		Batch	25 ml	1	0		

	Salmonella spp., unspecified
Milk, goats' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance	

Table Salmonella in milk and dairy products

Salmonella spp., unspecified
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 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
Dairy products (excluding cheeses) - butter - 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 processing plant - 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

Table Salmonella in milk and dairy products

	Salmonella spp., unspecified
Dairy products (excluding cheeses) - milk powder and whey powder - at retail - Surveillance	
Cheeses made from cows' milk - hard - 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 retail - Surveillance	
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at processing plant - Surveillance	
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - Surveillance	
Cheeses made from cows' milk - unspecified - 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	

Table Salmonella in milk and dairy products

Salmonella 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 retail - Surveillance
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance
Cheeses, made from mixed milk from cows, sheep and/or goats - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance
Cheeses, made from mixed milk from cows, sheep and/or goats - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance
Cheeses, made from mixed milk from cows, sheep and/or goats - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - Surveillance

Table Salmonella in milk and dairy products

Salmonella spp., unspecified
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - Surveillance
Cheeses, made from unspecified milk or other animal milk - curd - at retail - domestic production - Surveillance
Cheeses, made from unspecified milk or other animal milk - soft and semi-soft - at retail - domestic production - Surveillance
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
Dairy products (excluding cheeses) - dairy desserts - chilled - at processing plant - Surveillance
Dairy products (excluding cheeses) - dairy desserts - chilled - at retail - Surveillance
Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - at processing plant - Surveillance
Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - at retail - domestic production - Surveillance

Table Salmonella in milk and dairy products

Salmonella spp., unspecified	
Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - at retail - domestic production - Surveillance	
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - at retail - domestic production - Surveillance	
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance	
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance	
Dairy products (excluding cheeses) - fermented dairy products - at retail - Surveillance	
Dairy products (excluding cheeses) - ice-cream - at processing plant - Surveillance	
Dairy products (excluding cheeses) - ice-cream - at processing plant - Surveillance	
Dairy products (excluding cheeses) - ice-cream - at retail - domestic production - Monitoring	
Dairy products (excluding cheeses) - ice-cream - at retail - domestic production - Monitoring	
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Surveillance	

Table Salmonella in milk and dairy products

	Salmonella spp., unspecified
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) - sour milk - at processing plant - Surveillance	
Dairy products (excluding cheeses) - sour milk - at retail - Surveillance	
Dairy products (excluding cheeses) - yoghurt - at processing plant - Surveillance	
Dairy products (excluding cheeses) - yoghurt - at retail - Surveillance	
Dairy products (excluding cheeses) - yoghurt - at retail - domestic production - Surveillance	
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at hospital or care home - Monitoring	
Infant formula - dried - at retail - domestic production - Monitoring	
Infant formula - dried - at retail - domestic production - Monitoring	
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Monitoring	

Table Salmonella in milk and dairy products

Salmonella spp., unspecified	
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Monitoring	
Infant formula - ready-to-eat - at retail - domestic production - Monitoring	
Milk, cows' - pasteurised milk - at retail - domestic production - Surveillance	
Milk, cows' - raw milk - at farm - Surveillance	
Milk, cows' - raw milk - at farm - Surveillance	

Table Salmonella in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Eggs - table eggs - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Egg products - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	5	0		
Crustaceans - unspecified - cooked - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Molluscan shellfish - cooked - 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	5	0		
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	7	0		
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	6	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	23	0		
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	47	0		
Juice - fruit juice - unpasteurised - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 ml	2	0		
Juice - vegetable juice - unpasteurised - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 ml	7	0		
Bakery products - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	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
Bakery products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	39	0		
Bakery products - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Bakery products - bread - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	34	0		
Bakery products - bread - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	44	0		
Bakery products - pastry - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	19	0		
Bakery products - pastry - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Bakery products - pastry - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	8	0		
Bakery products - pastry - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	10	0		
Beverages, alcoholic - wines - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 ml	23	0		
Beverages, non-alcoholic - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 ml	1	0		
Beverages, non-alcoholic - soft drinks - at processing plant - domestic production - Surveillance	PHA		Official sampling	food sample		Batch	25 ml	7	0		
Beverages, non-alcoholic - soft drinks - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 ml	107	0		
Beverages, non-alcoholic - soft drinks - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 ml	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
Cereals and meals - at processing plant - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	27	0		
Chocolate - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Chocolate - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Cocoa and cocoa preparations, coffee and tea - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Cocoa and cocoa preparations, coffee and tea - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Cocoa and cocoa preparations, coffee and tea - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	29	4		4
Cocoa and cocoa preparations, coffee and tea - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	62	4		
Coconut - coconut products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Coconut - coconut products - at retail - imported - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	6	0		
Confectionery products and pastes - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Confectionery products and pastes - at processing plant - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	114	1	1	
Confectionery products and pastes - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Confectionery products and pastes - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	692	6	3	

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 retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	890	5	3	
Egg products - dried - at processing plant - Surveillance	SVFI	Objective 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	10	0		
Eggs - table eggs - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	7	1	1	
Fats and oils (excluding butter) - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Fats and oils (excluding butter) - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Fish - cooked - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	126	0		
Fish - cooked - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	34	0		
Fish - raw - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Fishery products, unspecified - ready-to-eat - chilled - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	3	0		
Fishery products, unspecified - ready-to-eat - frozen - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	22	0		
Fishery products, unspecified - ready-to-eat - frozen - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	34	0		
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	27	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 - dietary foods for special medical purposes - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	23	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	25 g	54	0		
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	57	0		
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	7	0		
Fruits - products - canned - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
Fruits - products - dried - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Fruits - products - dried - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Fruits - products - dried - at retail - imported - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Fruits - products - fruit purée - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Fruits and vegetables - non-pre-cut - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	8	0		
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	82	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 - ready-to-eat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	19	0		
Juice - fruit juice - pasteurised - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 ml	1	0		
Juice - fruit juice - pasteurised - at retail - domestic production - Surveillance	PHA		Official sampling	food sample		Single	25 ml	9	0		
Juice - mixed juice - pasteurised - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 ml	1	0		
Juice - vegetable juice - pasteurised - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 ml	2	0		
Nuts and nut products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Nuts and nut products - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Nuts and nut products - at retail - imported - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0		
Nuts and nut products - dried - at retail - imported - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Nuts and nut products - roasted - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	7	0		
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	277	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 - noodles - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	44	0		
Other processed food products and prepared dishes - noodles - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	15	0		
Other processed food products and prepared dishes - noodles - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Other processed food products and prepared dishes - noodles - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	9	0		
Other processed food products and prepared dishes - pasta - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	15	0		
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	18	0		
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Surveillance	PHA		Official sampling	food sample		Batch	25 g	1	0		
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Surveillance	PHA		Official sampling	food sample		Single	25 g	88	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 - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	54	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	11	0		
Other processed food products and prepared dishes - unspecified - at catering - Surveillance	PHA		Official sampling	food sample		Single	25 g	275	0		
Other processed food products and prepared dishes - unspecified - at catering - Surveillance	PHA		Official sampling	food sample		Batch	25 g	235	0		
Other processed food products and prepared dishes - unspecified - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Other processed food products and prepared dishes - unspecified - non-ready-to-eat foods - at retail - domestic production - Surveillance	PHA		Official sampling	food sample		Single	25 g	20	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	95	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	196	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	26	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	11	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 retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	512	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	634	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	140	0		
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	595	0		
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Surveillance	PHA		Official sampling	food sample		Batch	25 g	154	0		
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Surveillance	PHA		Official sampling	food sample		Single	25 g	113	0		
Sauce and dressings - mayonnaise - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	3	0		
Seeds, dried - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Seeds, dried - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Seeds, dried - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Seeds, dried - at retail - imported - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	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
Seeds, sprouted - non-ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	3	0		
Seeds, sprouted - non-ready-to-eat - at retail - imported - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Soups - dehydrated - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Soups - ready-to-eat - at processing plant - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 ml	14	0		
Spices and herbs - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	20	0		
Spices and herbs - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	26	0		
Spices and herbs - at retail - imported - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Spices and herbs - dried - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	30	0		
Spices and herbs - dried - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	21	0		
Vegetables - pre-cut - frozen vegetables - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Vegetables - pre-cut - frozen vegetables - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	7	0		
Vegetables - pre-cut - ready-to-eat - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Vegetables - pre-cut - ready-to-eat - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	47	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 - pre-cut - ready-to-eat - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	53	0		
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	43	0		
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	18	0		
Vegetables - products - cooked - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		

	Salmonella spp., unspecified	S. Agona	S. Infantis	S. London	S. Mbandaka	S. enterica subsp. salamae
Eggs - table eggs - at retail - Surveillance						
Egg products - at processing plant - Surveillance						
Crustaceans - unspecified - cooked - at retail - Surveillance						
Molluscan shellfish - cooked - at retail - Surveillance						
Seeds, sprouted - non-ready-to-eat - at retail - Surveillance						
Fruits - pre-cut - ready-to-eat - at retail - Surveillance						
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance						

Table Salmonella in other food

	Salmonella spp., unspecified	S. Agona	S. Infantis	S. London	S. Mbandaka	S. enterica subsp. salamae
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						
Juice - vegetable juice - unpasteurised - at retail - Surveillance						
Bakery products - at processing plant - Surveillance						
Bakery products - at processing plant - Surveillance						
Bakery products - at retail - Surveillance						
Bakery products - bread - at retail - domestic production - Surveillance						
Bakery products - bread - at retail - domestic production - Surveillance						
Bakery products - pastry - at processing plant - Surveillance						
Bakery products - pastry - at retail - Surveillance						
Bakery products - pastry - at retail - Surveillance						
Bakery products - pastry - at retail - domestic production - Surveillance						

Table Salmonella in other food

	Salmonella spp., unspecified	S. Agona	S. Infantis	S. London	S. Mbandaka	S. enterica subsp. salamae
Beverages, alcoholic - wines - at retail - domestic production - Monitoring						
Beverages, non-alcoholic - at processing plant - Surveillance						
Beverages, non-alcoholic - soft drinks - at processing plant - domestic production - Surveillance						
Beverages, non-alcoholic - soft drinks - at retail - domestic production - Monitoring						
Beverages, non-alcoholic - soft drinks - at retail - domestic production - Surveillance						
Cereals and meals - at processing plant - domestic production - Monitoring						
Chocolate - at processing plant - Surveillance						
Chocolate - at retail - Surveillance						
Cocoa and cocoa preparations, coffee and tea - at processing plant - Surveillance						
Cocoa and cocoa preparations, coffee and tea - at retail - Surveillance						
Cocoa and cocoa preparations, coffee and tea - at retail - domestic production - Surveillance						
Cocoa and cocoa preparations, coffee and tea - at retail - domestic production - Surveillance		1	1	1		1
Coconut - coconut products - at processing plant - Surveillance						

Table Salmonella in other food

	Salmonella spp., unspecified	S. Agona	S. Infantis	S. London	S. Mbandaka	S. enterica subsp. salamae
Coconut - coconut products - at retail - imported - Surveillance						
Confectionery products and pastes - at processing plant - Surveillance						
Confectionery products and pastes - at processing plant - domestic production - Surveillance						
Confectionery products and pastes - at retail - Surveillance						
Confectionery products and pastes - at retail - domestic production - Monitoring					3	
Confectionery products and pastes - at retail - domestic production - Monitoring					2	
Egg products - dried - at processing plant - Surveillance						
Eggs - table eggs - at retail - Surveillance						
Eggs - table eggs - at retail - domestic production - Monitoring						
Fats and oils (excluding butter) - at retail - Surveillance						
Fats and oils (excluding butter) - at retail - Surveillance						
Fish - cooked - at retail - Surveillance						
Fish - cooked - at retail - Surveillance						

Table Salmonella in other food

	Salmonella spp., unspecified	S. Agona	S. Infantis	S. London	S. Mbandaka	S. enterica subsp. salamae
Fish - raw - at retail - Surveillance						
Fishery products, unspecified - ready-to-eat - chilled - at retail - Surveillance						
Fishery products, unspecified - ready-to-eat - frozen - at retail - domestic production - Monitoring						
Fishery products, unspecified - ready-to-eat - frozen - at retail - domestic production - Surveillance						
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - domestic production - Monitoring						
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - domestic production - Monitoring						
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 - domestic production - Surveillance						
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - domestic production - Surveillance						
Fruits - products - canned - at retail - domestic production - Surveillance						

Table Salmonella in other food

	Salmonella spp., unspecified	S. Agona	S. Infantis	S. London	S. Mbandaka	S. enterica subsp. salamae
Fruits - products - dried - at processing plant - Surveillance						
Fruits - products - dried - at retail - Surveillance						
Fruits - products - dried - at retail - imported - Surveillance						
Fruits - products - fruit purée - at retail - domestic production - Monitoring						
Fruits and vegetables - non-pre-cut - at retail - domestic production - Surveillance						
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance						
Infant formula - ready-to-eat - at retail - domestic production - Surveillance						
Juice - fruit juice - pasteurised - at retail - Surveillance						
Juice - fruit juice - pasteurised - at retail - domestic production - Surveillance						
Juice - mixed juice - pasteurised - at retail - Surveillance						
Juice - vegetable juice - pasteurised - at retail - Surveillance						
Nuts and nut products - at processing plant - Surveillance						
Nuts and nut products - at retail - Surveillance						

Table Salmonella in other food

	Salmonella spp., unspecified	S. Agona	S. Infantis	S. London	S. Mbandaka	S. enterica subsp. salamae
Nuts and nut products - at retail - imported - Surveillance						
Nuts and nut products - dried - at retail - imported - Surveillance						
Nuts and nut products - roasted - at retail - Surveillance						
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Monitoring						
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Monitoring						
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 - domestic production - Monitoring						
Other processed food products and prepared dishes - noodles - at retail - domestic production - Monitoring						
Other processed food products and prepared dishes - pasta - at processing plant - Surveillance						

Table Salmonella in other food

	Salmonella spp., unspecified	S. Agona	S. Infantis	S. London	S. Mbandaka	S. enterica subsp. salamae
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Monitoring						
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Surveillance						
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Surveillance						
Other processed food products and prepared dishes - sandwiches - with meat - at retail - domestic production - Monitoring						
Other processed food products and prepared dishes - sandwiches - with meat - at retail - domestic production - Surveillance						
Other processed food products and prepared dishes - unspecified - at catering - Surveillance						
Other processed food products and prepared dishes - unspecified - at processing plant - Surveillance						
Other processed food products and prepared dishes - unspecified - non-ready-to-eat foods - at retail - domestic production - Surveillance						

Table Salmonella in other food

	Salmonella spp., unspecified	S. Agona	S. Infantis	S. London	S. Mbandaka	S. enterica subsp. salamae
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 hospital or care home - Monitoring						
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Monitoring						
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring						
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring						
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Surveillance						
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Surveillance						
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring						
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Surveillance						

Table Salmonella in other food

	Salmonella spp., unspecified	S. Agona	S. Infantis	S. London	S. Mbandaka	S. enterica subsp. salamae
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Surveillance						
Sauce and dressings - mayonnaise - at retail - domestic production - Monitoring						
Seeds, dried - at retail - Surveillance						
Seeds, dried - at retail - Surveillance						
Seeds, dried - at retail - domestic production - Monitoring						
Seeds, dried - at retail - imported - Surveillance						
Seeds, sprouted - non-ready-to-eat - at retail - Surveillance						
Seeds, sprouted - non-ready-to-eat - at retail - imported - Surveillance						
Soups - dehydrated - at processing plant - Surveillance						
Soups - ready-to-eat - at processing plant - domestic production - Monitoring						
Spices and herbs - at processing plant - Surveillance						
Spices and herbs - at retail - Surveillance						
Spices and herbs - at retail - imported - Surveillance						
Spices and herbs - dried - at retail - domestic production - Monitoring						

Table Salmonella in other food

	Salmonella spp., unspecified	S. Agona	S. Infantis	S. London	S. Mbandaka	S. enterica subsp. salamae
Spices and herbs - dried - at retail - domestic production - Monitoring						
Vegetables - pre-cut - frozen vegetables - at processing plant - Surveillance						
Vegetables - pre-cut - frozen vegetables - at retail - Surveillance						
Vegetables - pre-cut - ready-to-eat - at processing plant - Surveillance						
Vegetables - pre-cut - ready-to-eat - at processing plant - Surveillance						
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Monitoring						
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Monitoring						
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Surveillance						
Vegetables - products - cooked - at processing plant - Surveillance						

Table Salmonella in red meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from pig - carcase - at slaughterhouse - Surveillance	SVFI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	91	3		1
Meat from pig - fresh - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample > meat		Single	25 g	1	0		
Meat from pig - minced meat - intended to be eaten cooked - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	14	0		
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	5	0		
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	14	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	21	0		
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	11	0		
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	8	0		
Meat from bovine animals - carcase - at slaughterhouse - Surveillance	SVFI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	73	0		
Meat from bovine animals - minced meat - intended to be eaten cooked - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - Surveillance	SVFI	Objective 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 from sheep - carcase - at slaughterhouse - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0		
Other products of animal origin - gelatin and collagen - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
Meat from horse - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from horse - meat products - fermented sausages - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0		
Meat from pig - meat preparation - intended to be eaten cooked - chilled - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	84	1		1
Meat from pig - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	16	0		
Meat from pig - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	151	1		
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	1	0		
Meat from pig - meat products - cooked ham - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0		
Meat from pig - meat products - cooked ham - at retail - Surveillance	SVFI	Objective 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 from pig - meat products - cooked ham - sliced - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	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 - unspecified, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	37	0		
Meat from pig - meat products - unspecified, ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	8	0		
Meat from pig - meat products - unspecified, ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	5	0		
Meat from pig - minced meat - intended to be eaten cooked - chilled - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	21	0		
Meat from pig - minced meat - intended to be eaten cooked - chilled - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Meat, mixed meat - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	1	0		
Meat, mixed meat - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	1	0		
Meat, mixed meat - meat products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample > carcass swabs		Batch	25 g	27	0		
Meat, mixed meat - meat products - at processing plant - 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 retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	39	0		
Meat, mixed meat - meat products - at retail - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	2	0		
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		
Meat, mixed meat - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	96	0		
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	34	0		

	Salmonella spp., unspecified	S. 9,12:lv:-	S. Derby	S. Kentucky
Meat from pig - carcase - at slaughterhouse - Surveillance		1	1	
Meat from pig - fresh - at processing plant - Surveillance				
Meat from pig - minced meat - intended to be eaten cooked - at retail - Surveillance				
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance				
Meat from pig - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance				

Table Salmonella in red meat and products thereof

	Salmonella spp., unspecified	S. 9,12:lv:-	S. Derby	S. Kentucky
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 - minced meat - intended to be eaten cooked - at processing plant - Surveillance				
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - Surveillance				
Meat from sheep - carcase - at slaughterhouse - Surveillance				
Other products of animal origin - gelatin and collagen - at processing plant - Surveillance				
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - Surveillance				
Meat from horse - meat products - cooked, ready-to-eat - at retail - Surveillance				
Meat from horse - meat products - fermented sausages - at retail - Surveillance				

Table Salmonella in red meat and products thereof

	Salmonella spp., unspecified	S. 9,12:lv:-	S. Derby	S. Kentucky
Meat from pig - meat preparation - intended to be eaten cooked - chilled - at processing plant - Surveillance				
Meat from pig - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance				
Meat from pig - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance				1
Meat from pig - meat preparation - intended to be eaten cooked - frozen - at processing plant - 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 - sliced - at retail - Surveillance				
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance				
Meat from pig - meat products - unspecified, ready-to-eat - at processing plant - Surveillance				
Meat from pig - meat products - unspecified, ready-to-eat - at retail - Surveillance				
Meat from pig - meat products - unspecified, ready-to-eat - at retail - Surveillance				

Table Salmonella in red meat and products thereof

	Salmonella spp., unspecified	S. 9,12:lv:-	S. Derby	S. Kentucky
Meat from pig - minced meat - intended to be eaten cooked - chilled - at processing plant - Surveillance				
Meat from pig - minced meat - intended to be eaten cooked - chilled - at processing plant - Surveillance				
Meat, mixed meat - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance				
Meat, mixed meat - meat preparation - intended to be eaten cooked - chilled - at retail - Surveillance				
Meat, mixed meat - meat products - at processing plant - Surveillance				
Meat, mixed meat - meat products - at processing plant - Surveillance				
Meat, mixed meat - meat products - at retail - Surveillance				
Meat, mixed meat - meat products - at retail - 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				
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - Surveillance				

Table Salmonella in red meat and products thereof

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* 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 2011.

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.

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

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

Faeces

Methods of sampling (description of sampling techniques)

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

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: ISO 6579:2002

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

Bacteriological method: ISO 6579:2002

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

Bacteriological method: ISO 6579:2002

Vaccination policy

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

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 gallusCommission 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 2011
- 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)

Measures in flocks where infection is confirmed by examination of an official sample.

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 inbreeding 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.

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* in broilers shall be a reduction of the maximum percentage of flocks of broilers remaining positive of *Salmonella enteritidis* and *Salmonella typhimurium* to 1 % or less by 31 December 2011.

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

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 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 No 815/2008 of 20 October 2008 approving certain national programmes for the control of Salmonella in flocks of broilers of Gallus gallus

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 superficialies 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 superficialies 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 superficialies 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).

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* 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.

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

– rearing flocks

– day-old chicks

– pullets 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

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

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 2008-2010

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

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

D. *Salmonella* spp. in ducks - breeding flocks and meat production flocks

Monitoring system

Sampling strategy

Breeding flocks

Results of the investigation

In ducks, totally 8 flocks (breeding, meat production) were investigated with positive result of *S. Typhimurium* in 1 flock.

E. *Salmonella* spp. in geese - breeding flocks and meat production flocks

Results of the investigation

7 flocks of geese were investigated with positive finding of *S. Enteritidis* in 1 flock.

F. *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* in meat production and 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 fattening and 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* in meat production and 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 fattening and 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.

In fattening turkeys:

- 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 within 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

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

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

G. *Salmonella* spp. in animal

Monitoring system

Sampling strategy

In animals, samples were taken in case of ill or dead animals, according national eradication programmes and surveys related to poultry. The samples were tested in the State Veterinary and Food Institutes, using the Bacteriological method: STN EN ISO 6579/A1:2008, OIE and Bergey 's manuals. Data from laboratories were sent to National Reference Laboratory for Salmonellosis, which compiled the results and sent to State Veterinary and Food Administration

Frequency of the sampling

Animals at farm

In the case of suspicion of the disease occurrence

Type of specimen taken

Animals at farm

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

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

Results of investigation

In 2011 there were 2 focuses of salmonellosis in animals registered within Slovakia, in 2 districts, resp. 2 regions.

Geographical distribution of focuses of salmonellosis:

Cattle: 1 focus in Nitra Region/ Nitra District

Turtles: 2 focuses: Banska Bystrica Region/Zvolen District

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	86	SVFI, SVI	Census	Official and industry sampling			yes	Flock	86	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	122	1	1
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	17	0	
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	1	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	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 > faeces			Flock	740	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	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	Official sampling	animal sample > faeces			Flock	51	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	138	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		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	1	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	69	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	4	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	9	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	19	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 > eggshells			Flock	74	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	3	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 > faeces			Flock	2	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Suspect sampling	Official sampling	animal sample > faeces			Flock	1	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 egg production line - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	14	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	8	0	
Gallus gallus (fowl) - parent breeding flocks, unspecified - hatching eggs - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > eggshells			Flock	19	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											
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 - 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 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 - 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 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 - hatching eggs - 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	Salmonella spp., unspecified
Quails - at farm - Monitoring	SVFI, SVI	Selective sampling	Industry sampling	animal sample > organ/tissue		Flock	1	0			
Birds - zoo animal - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	16	0			
Canary - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	3	1	1		
Eagle - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	1	0			
Falcons - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	2	0			
Ostriches - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	1	0			
Ostriches - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	9	0			
Parrots - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	29	3	1	2	
Parrots - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	21	3	2		
Pheasants - meat production flocks - at farm - Monitoring	SVFI, SVI	Selective sampling	Industry sampling	animal sample > organ/tissue		Flock	6	0			
Pheasants - meat production flocks - at farm - Monitoring	SVFI, SVI	Selective sampling	Industry sampling	animal sample > faeces		Flock	1	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	Salmonella spp., unspecified
Pheasants - parent flocks - at farm - Monitoring	SVFI, SVI	Selective sampling	Official sampling	environmental sample > dust		Flock	1	0			
Pheasants - parent flocks - at farm - Monitoring	SVFI, SVI	Selective sampling	Industry sampling	animal sample > eggs		Flock	1	0			
Pigeons - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	37	2		2	
Pigeons - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	14	0			
Quails - at farm - Monitoring	SVFI, SVI	Selective sampling	Industry sampling	animal sample > faeces		Flock	1	0			
Vulture - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	1	0			

	S. enterica subsp. arizona
Quails - at farm - Monitoring	
Birds - zoo animal - at zoo - Clinical investigations	
Canary - Clinical investigations	
Eagle - Clinical investigations	
Falcons - at zoo - Clinical investigations	

Table Salmonella in other birds

	S. enterica subsp. arizona
Ostriches - at farm - Clinical investigations	
Ostriches - at farm - Clinical investigations	
Parrots - Clinical investigations	
Parrots - Clinical investigations	1
Pheasants - meat production flocks - at farm - Monitoring	
Pheasants - meat production flocks - at farm - Monitoring	
Pheasants - parent flocks - at farm - Monitoring	
Pheasants - parent flocks - at farm - Monitoring	
Pigeons - Clinical investigations	
Pigeons - Clinical investigations	
Quails - at farm - Monitoring	
Vulture - Clinical investigations	

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 - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	42	2	1		
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	73	3		3	
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	24	0			
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	166	4		3	
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	23	0			
Dogs - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	12	0			
Dogs - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	248	5		1	
Elephants - zoo animals - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	1	0			
Goats - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	3	0			
Goats - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	1	0			
Lamas - zoo animal - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	1	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: -
Lynx - wild - from hunting	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	1	1			
Monkeys - zoo animal - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	4	0			
Mouflons - zoo animal - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	1	0			
Pigs - breeding animals - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	38	2		1	
Pigs - fattening pigs - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	49	0			
Pigs - fattening pigs - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	71	0			
Rabbits - farmed - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	8	0			
Rabbits - farmed - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	3	0			
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	16	0			
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	25	1		1	
Sheep - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	7	0			
Sheep - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	1	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:-
Shellfish - farmed - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	1	0			
Snakes - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	2	1			
Snakes - zoo animal - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	6	1			
Solipeds, domestic - horses - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	1	0			
Turtles - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	4	1			
Turtles - pet animals - Monitoring	SVFI, SVI	Selective sampling	Industry sampling	animal sample		Animal	5	5			
Zoo animals, all - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	22	2			
	Salmonella spp., unspecified	S. 4,5,12:i:-	S. Aesch	S. Derby	S. Hvittingfoss	S. Infantis	S. Montevideo	S. Muenchen	S. Nessziona	S. Sandiego	S. enterica subsp. arizona
Cats - Clinical investigations						1					
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations											
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations											

Table Salmonella in other animals

	Salmonella spp., unspecified	S. 4,5,12:i:-	S. Aesch	S. Derby	S. Hvittingfoss	S. Infantis	S. Montevideo	S. Muenchen	S. Nessziona	S. Sandiego	S. enterica subsp. arizonae
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations							1				
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations											
Dogs - Clinical investigations											
Dogs - Clinical investigations		2	1			1					
Elephants - zoo animals - at zoo - Clinical investigations											
Goats - at farm - Clinical investigations											
Goats - at farm - Clinical investigations											
Lamas - zoo animal - at zoo - Clinical investigations											
Lynx - wild - from hunting							1				
Monkeys - zoo animal - at zoo - Clinical investigations											
Mouflons - zoo animal - at zoo - Clinical investigations											
Pigs - breeding animals - at farm - Clinical investigations					1						
Pigs - fattening pigs - at farm - Clinical investigations											
Pigs - fattening pigs - at farm - Clinical investigations											

Table Salmonella in other animals

	Salmonella spp., unspecified	S. 4,5,12:i:-	S. Aesch	S. Derby	S. Hvittingfoss	S. Infantis	S. Montevideo	S. Muenchen	S. Nessziona	S. Sandiego	S. enterica subsp. arizonae
Rabbits - farmed - at farm - Clinical investigations											
Rabbits - farmed - at farm - Clinical investigations											
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations											
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations											
Sheep - at farm - Clinical investigations											
Sheep - at farm - Clinical investigations											
Shellfish - farmed - at farm - Clinical investigations											
Snakes - pet animals - Clinical investigations											
Snakes - zoo animal - Clinical investigations											1
Solipeds, domestic - horses - at farm - Clinical investigations											
Turtles - pet animals - Clinical investigations										1	
Turtles - pet animals - Monitoring					1					4	
Zoo animals, all - Clinical investigations									1		

Table Salmonella in other animals

	S. enterica subsp. diorizonae
Cats - 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) - calves (under 1 year) - at farm - Clinical investigations	
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations	
Dogs - Clinical investigations	
Dogs - Clinical investigations	
Elephants - zoo animals - at zoo - Clinical investigations	
Goats - at farm - Clinical investigations	
Goats - at farm - Clinical investigations	
Lamas - zoo animal - at zoo - Clinical investigations	
Lynx - wild - from hunting	
Monkeys - zoo animal - at zoo - Clinical investigations	
Mouflons - zoo animal - at zoo - Clinical investigations	

Table Salmonella in other animals

	S. enterica subsp. diorizonae
Pigs - breeding animals - at farm - Clinical investigations	
Pigs - fattening pigs - at farm - Clinical investigations	
Pigs - fattening pigs - at farm - Clinical investigations	
Rabbits - farmed - at farm - Clinical investigations	
Rabbits - farmed - at farm - Clinical investigations	
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations	
Sheep - animals under 1 year (lambs) - at farm - Clinical investigations	
Sheep - at farm - Clinical investigations	
Sheep - at farm - Clinical investigations	
Shellfish - farmed - at farm - Clinical investigations	
Snakes - pet animals - Clinical investigations	1
Snakes - zoo animal - Clinical investigations	
Solipeds, domestic - horses - at farm - Clinical investigations	
Turtles - pet animals - Clinical investigations	

Table Salmonella in other animals

	S. enterica subsp. diorizonae
Turtles - pet animals - Monitoring	
Zoo animals, all - Clinical investigations	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	290	SVFI, SVI	Census	Official and industry sampling			yes	Flock	290	0	
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	1581	SVFI, SVI	Census	Official and industry sampling			yes	Flock	1443	2	2
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes	32	SVFI, SVI	Census	Official and industry sampling			yes	Flock	32	0	
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes	52	SVFI, SVI	Census	Official and industry sampling			yes	Flock	52	0	
Ducks - meat production flocks - at farm - Clinical investigations		SVFI, SVI			animal sample > organ/tissue			Flock	1	0	
Ducks - meat production flocks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	11	0	
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	348	7	3
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	52	0	
Gallus gallus (fowl) - broilers - during rearing period - at farm - Clinical investigations		SVFI, SVI			animal sample > organ/tissue			Flock	6	2	
Gallus gallus (fowl) - broilers - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > boot swabs			Flock	2334	29	7
Gallus gallus (fowl) - broilers - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	98	6	

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	Official sampling	environmental sample > dust			Flock	74	1	1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > dust			Flock	7	0	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Suspect sampling	Official sampling	animal sample > faeces			Flock	1	0	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	environmental sample > boot swabs			Flock	452	3	2
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	30	0	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	48	4	4
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	39	2	2
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	25	0	
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Clinical investigations		SVFI, SVI			animal sample > faeces			Flock	3	0	
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Suspect sampling	Official sampling	animal sample > faeces			Flock	1	0	
Gallus gallus (fowl) - laying hens - during rearing period - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	64	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
Geese - meat production flocks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	5	0	
Geese - meat production flocks - at farm - Monitoring		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	1	0	
Turkeys - breeding flocks, unspecified - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	10	0	
Turkeys - breeding flocks, unspecified - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	2	0	
Turkeys - breeding flocks, unspecified - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	262	1	
Turkeys - meat production flocks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > faeces			Flock	4	0	
Turkeys - meat production flocks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Industry sampling	animal sample > organ/tissue			Flock	8	2	
Turkeys - meat production flocks - at farm - Control and eradication programmes		SVFI, SVI	Objective sampling	Official sampling	animal sample > faeces			Flock	3	1	

	S. Typhimurium	S. 1,4,[5],12:i: -	Salmonella spp., unspecified	S. Agona	S. Infantis	S. Kentucky	S. Lille	S. Newport	S. Tennessee	S. enterica subsp. enterica
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes										
Gallus gallus (fowl) - broilers - 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. Agona	S. Infantis	S. Kentucky	S. Lille	S. Newport	S. Tennessee	S. enterica subsp. enterica
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 - Monitoring										
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Control and eradication programmes	1						1		2	
Gallus gallus (fowl) - broilers - day-old chicks - at farm - Control and eradication programmes										
Gallus gallus (fowl) - broilers - during rearing period - at farm - Clinical investigations					2					
Gallus gallus (fowl) - broilers - during rearing period - at farm - Control and eradication programmes					22					
Gallus gallus (fowl) - broilers - during rearing period - at farm - Control and eradication programmes						1	5			
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. Agona	S. Infantis	S. Kentucky	S. Lille	S. Newport	S. Tennessee	S. enterica subsp. enterica
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 - during rearing period - at farm - Clinical investigations										
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										1
Geese - meat production flocks - at farm - Monitoring										
Geese - meat production flocks - at farm - Monitoring										
Turkeys - breeding flocks, unspecified - at farm - Control and eradication programmes										

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i; -	Salmonella spp., unspecified	S. Agona	S. Infantis	S. Kentucky	S. Lille	S. Newport	S. Tennessee	S. enterica subsp. enterica
Turkeys - breeding flocks, unspecified - at farm - Control and eradication programmes										
Turkeys - breeding flocks, unspecified - at farm - Control and eradication programmes				1						
Turkeys - meat production flocks - at farm - Control and eradication programmes										
Turkeys - meat production flocks - at farm - Control and eradication programmes	1					1				
Turkeys - meat production flocks - at farm - Control and eradication programmes						1				

2.1.4 Salmonella in feedingstuffs

A. Salmonella spp. in feed

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

In 2011 there were investigated 639 samples of feedingstuffs with positive finding in 9 samples (1,4%) in raw meat for pets, pet snacks, poultry offal and fish meal.

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. Tabulated data from individual laboratories were sent to the SVFI Bratislava which acts as the National Reference Laboratory for Salmonellosis and which compiled the results into a summary report.

Table Salmonella in compound feedingstuffs

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Compound feedingstuffs for cattle - process control - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	15	0		
Compound feedingstuffs for pigs - final product - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	4	0		
Compound feedingstuffs for poultry (non specified) - process control - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	1	0		
Compound feedingstuffs for poultry (non specified) - 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	6	0		
Compound feedingstuffs for poultry - broilers - final product - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	6	0		
Compound feedingstuffs for cattle - final product - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	38	0		
Compound feedingstuffs for fish - final product - pelleted - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	4	0		
Compound feedingstuffs for fish - final product - pelleted - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	2	0		
Compound feedingstuffs for pigs - final product - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	43	0		
Compound feedingstuffs for poultry - breeders - final product - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	5	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 poultry - broilers - final product - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	31	0		
Compound feedingstuffs for poultry - laying hens - final product - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	7	0		
Compound feedingstuffs for sheep - final product - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	5	0		

	Salmonella spp., unspecified
Compound feedingstuffs for cattle - process control - at feed mill - Surveillance	
Compound feedingstuffs for pigs - final product - at feed mill - Surveillance	
Compound feedingstuffs for poultry (non specified) - process control - at feed mill - Surveillance	
Compound feedingstuffs for poultry (non specified) - 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	

Table Salmonella in compound feedingstuffs

	Salmonella spp., unspecified
Compound feedingstuffs for cattle - final product - at farm - Surveillance	
Compound feedingstuffs for fish - final product - pelleted - at farm - Surveillance	
Compound feedingstuffs for fish - final product - pelleted - at feed mill - Surveillance	
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 sheep - final product - at feed mill - Surveillance	

Table Salmonella in feed material of animal origin

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Feed material of land animal origin - dairy products - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	18	0		
Feed material of land animal origin - meat meal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	27	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	21	0		
Feed material of land animal origin - bone meal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	7	0		
Feed material of land animal origin - poultry offal meal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	93	3		
Feed material of land animal origin - blood meal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	7	0		
Feed material of land animal origin - animal fat - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	31	0		
Feed material of marine animal origin - fish meal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	32	1		
Feed material of marine animal origin - fish oil - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	3	0		
Feed material of marine animal origin - fish silage - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	1	0		
Feed material of land animal origin - dairy products - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	13	0		
Feed material of land animal origin - offal - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	17	1		1

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 marine animal origin - fish meal - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	6	0		
Pet food - at retail - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	6	0		
Pet food - dog snacks (pig ears, chewing bones) - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	29	4		
Pet food - dog snacks (pig ears, chewing bones) - at retail - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	1	0		
Pet food - dog snacks (pig ears, chewing bones) - at retail - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	2	0		
Pet food - final product - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	10	0		
Pet food - final product - at retail - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	5	0		
Pet food - final product - canned products - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	4	0		
Pet food - final product - pelleted - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	5	0		
Pet food - final product - pelleted - at retail - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Batch	25 g	10	0		

Salmonella spp., unspecified	S. Agona	S. Derby	S. Infantis	S. Montevideo	S. Ohio
Feed material of land animal origin - dairy products - at feed mill - Surveillance					

Table Salmonella in feed material of animal origin

	Salmonella spp., unspecified	S. Agona	S. Derby	S. Infantis	S. Montevideo	S. Ohio
Feed material of land animal origin - meat meal - at feed mill - Surveillance						
Feed material of land animal origin - meat and bone meal - at feed mill - Surveillance						
Feed material of land animal origin - bone meal - at feed mill - Surveillance						
Feed material of land animal origin - poultry offal meal - at feed mill - Surveillance		1		2		
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					1	
Feed material of marine animal origin - fish oil - at feed mill - Surveillance						
Feed material of marine animal origin - fish silage - at feed mill - Surveillance						
Feed material of land animal origin - dairy products - at farm - Surveillance						
Feed material of land animal origin - offal - at feed mill - Surveillance						
Feed material of marine animal origin - fish meal - at farm - Surveillance						
Pet food - at retail - Surveillance						

Table Salmonella in feed material of animal origin

	Salmonella spp., unspecified	S. Agona	S. Derby	S. Infantis	S. Montevideo	S. Ohio
Pet food - dog snacks (pig ears, chewing bones) - at feed mill - Surveillance			2	1		1
Pet food - dog snacks (pig ears, chewing bones) - at retail - Surveillance						
Pet food - dog snacks (pig ears, chewing bones) - at retail - Surveillance						
Pet food - final product - at feed mill - Surveillance						
Pet food - final product - at retail - Surveillance						
Pet food - final product - canned products - at feed mill - Surveillance						
Pet food - final product - pelleted - at feed mill - Surveillance						
Pet food - final product - pelleted - at retail - 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 oil seed or fruit origin - rape seed derived - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	3	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	19	0		
Feed material of oil seed or fruit origin - sunflower seed derived - at feed mill - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	1	0		
Feed material of cereal grain origin - barley derived - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	5	0		
Feed material of cereal grain origin - maize derived - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	16	0		
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 - other cereal grain derived - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	2	0		
Feed material of cereal grain origin - wheat derived - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	24	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	1	0		
Other feed material - forages and roughages - at farm - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	44	0		
Other feed material - other seeds and fruits - at retail - Surveillance	SVFI	Objective sampling	Official sampling	feed sample		Single	25 g	1	0		

Table Salmonella in other feed matter

Salmonella spp., unspecified	
Feed material of oil seed or fruit origin - rape seed derived - at feed mill - Surveillance	
Feed material of oil seed or fruit origin - soya (bean) derived - at feed mill - Surveillance	
Feed material of oil seed or fruit origin - sunflower seed derived - 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 - other cereal grain 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	
Other feed material - forages and roughages - at farm - Surveillance	
Other feed material - other seeds and fruits - at retail - Surveillance	

Table Salmonella in other feed matter

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 phageotypes 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	
Number of isolates in the laboratory													
Number of isolates serotyped	0	0	7	0	0	0	2	0	54	0	2	0	3
Number of isolates per serovar													
S. 4,5,12:i:-													
S. Aesch													
S. Agona													1
S. Derby								1					
S. Enteritidis										20			
S. Hvittingfoss													

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
Number of isolates in the laboratory													
Number of isolates serotyped	0	0	7	0	0	0	2	0	54	0	2	0	3
Number of isolates per serovar													
S. Infantis									22		2		
S. Kentucky									1				2
S. Lille									6				
S. Montevideo			1										
S. Muenchen													
S. Nessziona													
S. Newport									1				
S. Sandiego													
S. Tennessee									2				
S. Typhimurium			6					1		1			
S. enterica subsp. arizonae													

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	
Number of isolates in the laboratory													
Number of isolates serotyped	0	0	7	0	0	0	2	0	54	0	2	0	3
Number of isolates per serovar													
S. enterica subsp. diarizonae													
S. enterica subsp. enterica										1			

Serovar	Other poultry			Other animals			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory							
Number of isolates serotyped	0	2	0	0	5	23	0
Number of isolates per serovar							
S. 4,5,12:i:-						2	
S. Aesch						1	
S. Agona							
S. Derby							

Table Salmonella serovars in animals

Serovar	Other poultry			Other animals			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory							
Number of isolates serotyped	0	2	0	0	5	23	0
Number of isolates per serovar							
S. Enteritidis		1				5	
S. Hvittingfoss					1		
S. Infantis						3	
S. Kentucky							
S. Lille							
S. Montevideo							
S. Muenchen						1	
S. Nessziona						1	
S. Newport							
S. Sandiego					4		
S. Tennessee							

Table Salmonella serovars in animals

Serovar	Other poultry			Other animals			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory							
Number of isolates serotyped	0	2	0	0	5	23	0
Number of isolates per serovar							
S. Typhimurium		1				6	
S. enterica subsp. arizonae						2	
S. enterica subsp. diarizonae						2	
S. enterica subsp. enterica							

Table Salmonella serovars in feed

Serovar	Compound feedingstuffs for pigs		Feed material of land animal origin - offal - at feed mill - Surveillance		Feed material of land animal origin - poultry offal meal - at feed mill - Surveillance		Feed material of marine animal origin - fish meal - at feed mill - Surveillance		Pet food - dog snacks (pig ears, chewing bones) - at feed mill - Surveillance	
	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical
Number of isolates in the laboratory										
Number of isolates serotyped	0	0	1	0	3	0	1	0	4	0
Number of isolates per serovar										
S. Agona					1					
S. Derby									2	
S. Infantis					2				1	
S. Montevideo							1			
S. Ohio									1	
S. Typhimurium			1							

Table Salmonella serovars in food

Serovar	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Meat from other poultry species		Other products of animal origin		Other food	
	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Number of isolates in the laboratory												
Number of isolates serotyped	0	0	0	5	0	5	0	0	1	0	11	9
Number of isolates per serovar												
S. 9,12:lv:-				1								
S. Agona						2						1
S. Derby				1								
S. Enteritidis									1		6	1
S. Infantis						3						1
S. Kentucky				1								
S. London												1
S. Mbandaka											5	
S. Typhimurium				2								4
S. enterica subsp. <i>salamae</i>												1

Table Salmonella serovars in food

2.1.6 Antimicrobial resistance in *Salmonella* isolates

A. Antimicrobial resistance in *Salmonella* in foodstuff derived from cattle

Notification system in place

B. Antimicrobial resistance in *Salmonella* in pigs

Notification system in place

C. Antimicrobial resistance in *Salmonella* in poultry

Laboratory methodology used for identification of the microbial isolates

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 cutt-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.

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

All the pentaresistant strains *S. Typhimurium* isolated up to now from 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. Lille* 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. Lille*, 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 cutt-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 evalution of the resistance level in food category only. The overall antimicrobial resistance situation in food is similar to situation in animal.

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

The occurence 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*, S. *Lille*, etc.

Table Antimicrobial susceptibility testing of *Salmonella* in Cattle (bovine animals)

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. Dublin		S. Infantis		Salmonella spp.		S. Montevideo	
			no										no	
			3										1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin			3	0									1	0
Aminoglycosides - Kanamycin			3	0									1	0
Aminoglycosides - Streptomycin			3	2									1	0
Amphenicols - Chloramphenicol			3	1									1	0
Amphenicols - Florfenicol			3	1									1	0
Fluoroquinolones - Ciprofloxacin			3	0									1	0
Penicillins - Ampicillin			3	1									1	0
Quinolones - Nalidixic acid			3	0									1	0
Sulfonamides			3	2									1	0
Tetracyclines - Tetracycline			3	3									1	0
Trimethoprim			3	0									1	0
Fully sensitive			3	0									1	1
Resistant to 1 antimicrobial			3	1									1	0
Resistant to 2 antimicrobials			3	0									1	0
Resistant to 3 antimicrobials			3	1									1	0
Resistant to 4 antimicrobials			3	0									1	0
Resistant to >4 antimicrobials			3	1									1	0
Number of multiresistant S. Typhimurium - with penta resistance			3	1										
Number of multiresistant S. Typhimurium - resistant to other antimicrobials			3	1										

Table Antimicrobial susceptibility testing of *Salmonella* in Cattle (bovine animals)

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Dublin		S. Infantis		Salmonella spp.		S. Montevideo	
			no										no	
			3										1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Cephalosporins - Ceftazidim			3	0									1	0
Polymyxins - Colistin			3	0									1	0

Footnote:

S. Typhimurium: ACSSuTF resistance - 1 x, SSuT resistance - 1 x, T resistance - 1 x.

S. Montevideo: Fully sensitive - 1 x.

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. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		Salmonella spp.	
			no				no			
			1				1			
	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin			1	0			1	0		
Aminoglycosides - Kanamycin			1	0			1	0		
Aminoglycosides - Streptomycin			1	1			1	0		
Amphenicols - Chloramphenicol			1	0			1	0		
Amphenicols - Florfenicol			1	0			1	0		
Fluoroquinolones - Ciprofloxacin			1	0			1	0		
Penicillins - Ampicillin			1	1			1	0		
Quinolones - Nalidixic acid			1	0			1	0		
Sulfonamides			1	1			1	0		
Tetracyclines - Tetracycline			1	1			1	0		
Trimethoprim			1	0			1	0		
Fully sensitive			1	0			1	1		
Resistant to 1 antimicrobial			1	0			1	0		
Resistant to 2 antimicrobials			1	0			1	0		
Resistant to 3 antimicrobials			1	0			1	0		
Resistant to 4 antimicrobials			1	1			1	0		
Resistant to >4 antimicrobials			1	0			1	0		
Number of multiresistant S. Typhimurium - with penta resistance			1	0						
Number of multiresistant S. Typhimurium - resistant to other antimicrobials			1	0						

Table Antimicrobial susceptibility testing of *Salmonella* in Pigs

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		Salmonella spp.	
			no				no			
			1				1			
Antimicrobials:	N	n	N	n	N	n	N	n	N	n
Cephalosporins - Ceftazidim			1	0			1	0		
Polymyxins - Colistin			1	0			1	0		

Footnote:

S. Typhimurium: ASSuT resistance - 1 x.

S. Derby: Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of *Salmonella* in meat from pig

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		Salmonella spp.		S. 9,12:lv:-		S. Kentucky	
			yes				yes				yes		yes	
			2				1				1		1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin			2	0			1	0			1	0	1	1
Aminoglycosides - Kanamycin			2	0			1	0			1	0	1	0
Aminoglycosides - Streptomycin			2	2			1	0			1	0	1	1
Amphenicols - Chloramphenicol			2	0			1	0			1	0	1	0
Amphenicols - Florfenicol			2	0			1	0			1	0	1	0
Fluoroquinolones - Ciprofloxacin			2	0			1	0			1	0	1	1
Penicillins - Ampicillin			2	2			1	0			1	0	1	1
Quinolones - Nalidixic acid			2	0			1	0			1	0	1	1
Sulfonamides			2	2			1	0			1	0	1	1
Tetracyclines - Tetracycline			2	2			1	0			1	0	1	1
Trimethoprim			2	0			1	0			1	0	1	0
Fully sensitive			2	0			1	1			1	1	1	0
Resistant to 1 antimicrobial			2	0			1	0			1	0	1	0
Resistant to 2 antimicrobials			2	0			1	0			1	0	1	0
Resistant to 3 antimicrobials			2	0			1	0			1	0	1	0
Resistant to 4 antimicrobials			2	2			1	0			1	0	1	0
Resistant to >4 antimicrobials			2	0			1	0			1	0	1	1
Cephalosporins - Ceftazidim			2	0			1	0			1	0	1	0
Polymyxins - Colistin			2	0			1	0			1	0	1	0

Table Antimicrobial susceptibility testing of *Salmonella* in meat from pig

Footnote:

S.Typhimurium: ASSuT resistance – 2 x.

S. Derby: Fully sensitive – 1 x.

S. I 9,12:l,v:- : Fully sensitive - 1 x.

S. Kentucky: ASSuTNxCpG resistance - 1 x. Note to Streptomycin: MIC = 32 microg/ml.

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. Paratyphi B var. Java		Salmonella spp.		S. Agona		S. Infantis	
											yes		yes	
											2		3	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin											2	0	3	0
Aminoglycosides - Kanamycin											2	0	3	0
Aminoglycosides - Streptomycin											2	0	3	1
Amphenicols - Chloramphenicol											2	0	3	0
Amphenicols - Florfenicol											2	0	3	0
Fluoroquinolones - Ciprofloxacin											2	0	3	3
Penicillins - Ampicillin											2	0	3	0
Quinolones - Nalidixic acid											2	0	3	3
Sulfonamides											2	0	3	3
Tetracyclines - Tetracycline											2	0	3	3
Trimethoprim											2	0	3	0
Fully sensitive											2	2	3	0
Resistant to 1 antimicrobial											2	0	3	0
Resistant to 2 antimicrobials											2	0	3	0
Resistant to 3 antimicrobials											2	0	3	0
Resistant to 4 antimicrobials											2	0	3	2
Resistant to >4 antimicrobials											2	0	3	1
Cephalosporins - Ceftazidim											2	0	3	0
Polymyxins - Colistin											2	0	3	0

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

Footnote:

S. Agona: Fully sensitive – 2 x.

S. Infantis: SSuTNxCp resistance - 1 x; (S)SuTNxCp resistance - 2 x. Note to (S): MIC = 32 microg/ml.

Table Antimicrobial susceptibility testing of *Salmonella* in Turkeys

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Saintpaul		Salmonella spp.		S. Agona		S. Kentucky	
			yes								yes		yes	
			1								1		2	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin			1	0							1	0	2	1
Aminoglycosides - Kanamycin			1	0							1	0	2	0
Aminoglycosides - Streptomycin			1	0							1	0	2	1
Amphenicols - Chloramphenicol			1	0							1	0	2	0
Amphenicols - Florfenicol			1	0							1	0	2	0
Fluoroquinolones - Ciprofloxacin			1	0							1	0	2	1
Penicillins - Ampicillin			1	0							1	0	2	2
Quinolones - Nalidixic acid			1	0							1	0	2	1
Sulfonamides			1	0							1	0	2	1
Tetracyclines - Tetracycline			1	0							1	0	2	1
Trimethoprim			1	0							1	0	2	0
Fully sensitive			1	1							1	1	2	0
Resistant to 1 antimicrobial			1	0							1	0	2	1
Resistant to 2 antimicrobials			1	0							1	0	2	0
Resistant to 3 antimicrobials			1	0							1	0	2	0
Resistant to 4 antimicrobials			1	0							1	0	2	0
Resistant to >4 antimicrobials			1	0							1	0	2	1
Number of multiresistant S. Typhimurium - with penta resistance			1	0										
Number of multiresistant S. Typhimurium - resistant to other antimicrobials			1	0										

Table Antimicrobial susceptibility testing of *Salmonella* in Turkeys

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Saintpaul		Salmonella spp.		S. Agona		S. Kentucky	
			yes								yes		yes	
			1								1		2	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Cephalosporins - Ceftazidim			1	0							1	0	2	0
Polymyxins - Colistin			1	0							1	0	2	0

Footnote:

S. Typhimurium: Fully sensitive - 1 x.

S. Agona - Fully sensitive - 1 x.

S. Kentucky: ASSuTNxCpG resistance - 1 x, A resistance - 1 x.

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

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

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

Footnote:

S. Enteritidis: Fully sensitive - 8 x. Note to Colistine: MIC >2 microg/ml – 3 x.

S. Newport: AT resistance - 1 x.

S. enterica subspecies *enterica* (4,12:enx:-): Fully sensitive – 1 x. Note to Streptomycin: MIC = 32 microg/ml.

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

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Paratyphi B var. Java		Salmonella spp.		S. Infantis		S. Kentucky		S. Lille		S. Tennessee		
	Isolates out of a monitoring program (yes/no)		yes		yes						yes		yes		yes		yes		
	Number of isolates available in the laboratory		10		1								24		1		6		2
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	
Aminoglycosides - Gentamicin	10	0	1	0							24	1	1	1	6	0	2	0	
Aminoglycosides - Kanamycin	10	0	1	0							24	0	1	0	6	0	2	0	
Aminoglycosides - Streptomycin	10	0	1	0							24	3	1	0	6	2	2	0	
Amphenicols - Chloramphenicol	10	0	1	0							24	0	1	0	6	0	2	0	
Amphenicols - Florfenicol	10	0	1	0							24	0	1	0	6	0	2	0	
Fluoroquinolones - Ciprofloxacin	10	0	1	0							24	24	1	1	6	5	2	0	
Penicillins - Ampicillin	10	0	1	0							24	1	1	1	6	3	2	0	
Quinolones - Nalidixic acid	10	0	1	0							24	24	1	1	6	5	2	0	
Sulfonamides	10	0	1	0							24	23	1	1	6	5	2	0	
Tetracyclines - Tetracycline	10	0	1	0							24	24	1	1	6	5	2	0	
Trimethoprim	10	0	1	0							24	0	1	0	6	0	2	0	
Fully sensitive	10	10	1	1							24	0	1	0	6	1	2	2	
Resistant to 1 antimicrobial	10	0	1	0							24	0	1	0	6	0	2	0	
Resistant to 2 antimicrobials	10	0	1	0							24	0	1	0	6	0	2	0	
Resistant to 3 antimicrobials	10	0	1	0							24	1	1	0	6	0	2	0	
Resistant to 4 antimicrobials	10	0	1	0							24	19	1	0	6	1	2	0	
Resistant to >4 antimicrobials	10	0	1	0							24	4	1	1	6	4	2	0	
Number of multiresistant S. Typhimurium - with penta resistance			1	0															
Number of multiresistant S. Typhimurium - resistant to other antimicrobials			1	0															

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

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Paratyphi B var. Java		Salmonella spp.		S. Infantis		S. Kentucky		S. Lille		S. Tennessee	
	Isolates out of a monitoring program (yes/no)		yes								yes		yes		yes		yes	
	Number of isolates available in the laboratory		10		1						24		1		6		2	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Cephalosporins - Ceftazidim	10	0	1	0							24	0	1	0	6	0	2	0
Polymyxins - Colistin	10	4	1	1							24	0	1	0	6	0	2	0

Footnote:

S. Enteritidis: Fully sensitive - 10 x. Note to Colistin: MIC >2 microg/ml – 4 x.

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

S. Infantis: A(S)SuTNxCpG resistance - 1 x; SSuTNxCp resistance - 3 x; (S)SuTNxCp resistance - 17 x; SuTNxCp resistance - 2 x, TNxCp resistance - 1 x. Note to (S): MIC = 32 microg/ml.

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

S. Lille: ASSuTNxCp resistance - 1 x, A(S)SuTNxCp resistance - 2 x, SSuTNxCp resistance - 1 x, (S)SuTNxCp resistance - 1 x, (S) - 1x. Note to (S): MIC = 32 microg/ml.

S. Tennessee: Fully sensitive – 2 x.

Table Antimicrobial susceptibility testing of S. 6,7:-1,5 in Meat from wild boar - in total - Surveillance - quantitative data [Dilution method]

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

S. 6,7:-1,5 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from wild boar - in total - Surveillance																								
	yes																								
	1																								
	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	1	0								1													0.25	32
Aminoglycosides - Kanamycin	8	1	0										1											4	128
Aminoglycosides - Streptomycin	32	1	0														1							2	128
Amphenicols - Chloramphenicol	16	1	0															1						2	64
Amphenicols - Florfenicol	16	1	0														1							2	64
Cephalosporins - Cefotaxime	0.5	1	0						1															0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																	0.008	8
Penicillins - Ampicillin	4	1	0										1											0.5	32
Quinolones - Nalidixic acid	16	1	0											1										4	64
Sulfonamides	256	1	0																1					8	1024
Tetracyclines - Tetracycline	8	1	0											1										1	64
Trimethoprim	2	1	0								1													0.5	32
Cephalosporins - Ceftazidim	2	1	0									1												0.25	16
Polymyxins - Colistin	2	1	0										1											2	4

Footnote:

Fully sensitive - 1 x. Note to Streptomycin: MIC = 32 microg/ml.

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

Concentration ($\mu\text{g/ml}$), 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) - laying hens - at farm - Monitoring																										
	yes																										
	8																										
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Aminoglycosides - Gentamicin	2	8	0						1	6	1														0.25	32	
Aminoglycosides - Kanamycin	8	8	0												7	1									4	128	
Aminoglycosides - Streptomycin	32	8	0										2	5	1										2	128	
Amphenicols - Chloramphenicol	16	8	0											8												2	64
Amphenicols - Florfenicol	16	8	0										2	6												2	64
Cephalosporins - Cefotaxime	0.5	8	0					1	5	2																0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	8	0		1	6	1																			0.008	8
Penicillins - Ampicillin	4	8	0									2	6													0.5	32
Quinolones - Nalidixic acid	16	8	0												7	1										4	64
Sulfonamides	256	8	0															3	4	1						8	1024
Tetracyclines - Tetracycline	8	8	0										4	4												1	64
Trimethoprim	2	8	0								7	1														0.5	32
Cephalosporins - Ceftazidim	2	8	0							5	2	1														0.25	16
Polymyxins - Colistin	2	8	3											5	1	2										2	4

Footnote:

Fully sensitive - 8 x. Note to Colistin: MIC >2 microg/ml – 3 x.

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

Concentration ($\mu\text{g/ml}$), 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 (<i>Gallus gallus</i>) - in total - Surveillance																									
	yes																									
	3																									
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest	
Aminoglycosides - Gentamicin	2	3	0						1	2														0.25	32	
Aminoglycosides - Kanamycin	8	3	0																					4	128	
Aminoglycosides - Streptomycin	32	3	1																					2	128	
Amphenicols - Chloramphenicol	16	3	0																					2	64	
Amphenicols - Florfenicol	16	3	0																					2	64	
Cephalosporins - Cefotaxime	0.5	3	0																					0.06	4	
Fluoroquinolones - Ciprofloxacin	0.06	3	3								1	2												0.008	8	
Penicillins - Ampicillin	4	3	0																					0.5	32	
Quinolones - Nalidixic acid	16	3	3																					4	64	
Sulfonamides	256	3	3																					3	8	1024
Tetracyclines - Tetracycline	8	3	3																					1	64	
Trimethoprim	2	3	0																					0.5	32	
Cephalosporins - Ceftazidim	2	3	0																					0.25	16	
Polymyxins - Colistin	2	3	0																					2	4	

Footnote:

SSuTNxCp resistance - 1 x; (S)SuTNxCp resistance - 2 x. Note to (S): MIC = 32 microg/ml.

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

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

S. Agona 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																								
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	2	0							2														0.25	32
Aminoglycosides - Kanamycin	8	2	0										2											4	128
Aminoglycosides - Streptomycin	32	2	0											2										2	128
Amphenicols - Chloramphenicol	16	2	0											2										2	64
Amphenicols - Florfenicol	16	2	0											2										2	64
Cephalosporins - Cefotaxime	0.5	2	0						2															0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	2	0			2																		0.008	8
Penicillins - Ampicillin	4	2	0								1	1												0.5	32
Quinolones - Nalidixic acid	16	2	0									2												4	64
Sulfonamides	256	2	0													1	1							8	1024
Tetracyclines - Tetracycline	8	2	0									2												1	64
Trimethoprim	2	2	0							2														0.5	32
Cephalosporins - Ceftazidim	2	2	0							2														0.25	16
Polymyxins - Colistin	2	2	0									2												2	4

Footnote:

Fully sensitive - 2 x.

Table Antimicrobial susceptibility testing of S. Derby in Meat from pig - in total - Surveillance - quantitative data [Dilution method]

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

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

Footnote:

Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. Typhimurium in Meat from pig - in total - Surveillance - quantitative data [Dilution method]

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

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

Footnote:

ASSuT resistance - 2 x.

Table Antimicrobial susceptibility testing of S. 9,12:lv:- in Meat from pig - in total - Surveillance - quantitative data [Dilution method]

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

S. 9,12:lv:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from pig - in total - Surveillance																							
	yes																							
	1																							
	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest
Aminoglycosides - Gentamicin	2	1	0								1												0.25	32
Aminoglycosides - Kanamycin	8	1	0											1									4	128
Aminoglycosides - Streptomycin	32	1	0												1								2	128
Amphenicols - Chloramphenicol	16	1	0											1									2	64
Amphenicols - Florfenicol	16	1	0											1									2	64
Cephalosporins - Cefotaxime	0.5	1	0					1															0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	1	0		1																		0.008	8
Penicillins - Ampicillin	4	1	0											1									0.5	32
Quinolones - Nalidixic acid	16	1	0												1								4	64
Sulfonamides	256	1	0															1					8	1024
Tetracyclines - Tetracycline	8	1	0								1												1	64
Trimethoprim	2	1	0								1												0.5	32
Cephalosporins - Ceftazidim	2	1	0								1												0.25	16
Polymyxins - Colistin	2	1	0											1									2	4

Footnote:

Fully sensitive - 1 x.

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

Concentration ($\mu\text{g/ml}$), 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) - broilers - at farm - Monitoring																								
	yes																								
	10																								
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	10	0						5	5														0.25	32
Aminoglycosides - Kanamycin	8	10	0											10										4	128
Aminoglycosides - Streptomycin	32	10	0										3	7										2	128
Amphenicols - Chloramphenicol	16	10	0										2	8										2	64
Amphenicols - Florfenicol	16	10	0										4	6										2	64
Cephalosporins - Cefotaxime	0.5	10	0					10																0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	10	0		1	9																		0.008	8
Penicillins - Ampicillin	4	10	0									3	7											0.5	32
Quinolones - Nalidixic acid	16	10	0											10										4	64
Sulfonamides	256	10	0														2	4	4					8	1024
Tetracyclines - Tetracycline	8	10	0										8	2										1	64
Trimethoprim	2	10	0									10												0.5	32
Cephalosporins - Ceftazidim	2	10	0							10														0.25	16
Polymyxins - Colistin	2	10	4												6	3	1							2	4

Footnote:

Fully sensitive - 10 x. Note to Colistin: MIC >2 microg/ml – 4 x.

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Ducks - unspecified - at farm - Clinical investigations - quantitative data [Dilution method]

Concentration ($\mu\text{g/ml}$), 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	Ducks - unspecified - at farm - Clinical investigations																								
	no																								
	1																								
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	1	0								1													0.25	32
Aminoglycosides - Kanamycin	8	1	0											1										4	64
Aminoglycosides - Streptomycin	32	1	0										1											2	128
Amphenicols - Chloramphenicol	16	1	0											1										2	64
Amphenicols - Florfenicol	16	1	0											1										2	64
Cephalosporins - Cefotaxime	0.5	1	0						1															0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																	0.008	8
Penicillins - Ampicillin	4	1	0										1											0.5	32
Quinolones - Nalidixic acid	16	1	0											1										4	64
Sulfonamides	256	1	0																1					8	1024
Tetracyclines - Tetracycline	8	1	0										1											1	64
Trimethoprim	2	1	0									1												0.5	32
Cephalosporins - Ceftazidim	2	1	0								1													0.25	16
Polymyxins - Colistin	2	1	0										1											2	4

Footnote:

Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. Kentucky in Meat from pig - in total - Surveillance - quantitative data [Dilution method]

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

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

Footnote:

ASSuTNxCpG resistance - 1 x.

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

Footnote:

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

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

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

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

Footnote:

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

Table Antimicrobial susceptibility testing of S. Lille 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. Lille Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - at farm - Monitoring																										
	yes																										
	6																										
	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Aminoglycosides - Gentamicin	2	6	0						2	4																0.25	32
Aminoglycosides - Kanamycin	8	6	0													6										4	128
Aminoglycosides - Streptomycin	32	6	2															4	2							2	128
Amphenicols - Chloramphenicol	16	6	0													6										2	64
Amphenicols - Florfenicol	16	6	0													1	5									2	64
Cephalosporins - Cefotaxime	0.5	6	0						1	3	2															0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	6	5		1							2		3												0.008	8
Penicillins - Ampicillin	4	6	3									1		2				3								0.5	32
Quinolones - Nalidixic acid	16	6	5												1					5						4	64
Sulfonamides	256	6	5																1					5		0	1024
Tetracyclines - Tetracycline	8	6	5												1					5						1	64
Trimethoprim	2	6	0									6														0.5	32
Cephalosporins - Ceftazidim	2	6	0									2	4													0.25	16
Polymyxins - Colistin	2	6	0												6											2	4

Footnote:

Resistance: ASSuTNxCp - 1 x, A(S)SuTNxCp - 2 x, SSuTNxCp - 1 x, (S)SuTNxCp - 1 x, (S) - 1x. Note to (S): MIC = 32 microg/ml.

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

Footnote:

Fully sensitive - 2 x.

Table Antimicrobial susceptibility testing of *S. enterica* subsp. *enterica* 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. enterica subsp. enterica 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	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	1	0							1														0.25	32
Aminoglycosides - Kanamycin	8	1	0											1										4	128
Aminoglycosides - Streptomycin	32	1	0														1							2	128
Amphenicols - Chloramphenicol	16	1	0											1										2	64
Amphenicols - Florfenicol	16	1	0											1										2	64
Cephalosporins - Cefotaxime	0.5	1	0						1															0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																	0.008	8
Penicillins - Ampicillin	4	1	0								1													0.5	32
Quinolones - Nalidixic acid	16	1	0											1										4	64
Sulfonamides	256	1	0																1					8	1024
Tetracyclines - Tetracycline	8	1	0									1												1	64
Trimethoprim	2	1	0								1													0.5	32
Cephalosporins - Ceftazidim	2	1	0								1													0.25	16
Polymyxins - Colistin	2	1	0										1											2	4

Footnote:

Fully sensitive - 1 x.

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

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

S. Newport 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:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	1	0						1															0.25	32
Aminoglycosides - Kanamycin	8	1	0											1										4	128
Aminoglycosides - Streptomycin	32	1	0												1									2	128
Amphenicols - Chloramphenicol	16	1	0											1										2	64
Amphenicols - Florfenicol	16	1	0											1										2	64
Cephalosporins - Cefotaxime	0.5	1	0						1															0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	1	0		1																			0.008	8
Penicillins - Ampicillin	4	1	1																1					0.5	32
Quinolones - Nalidixic acid	16	1	0											1										4	64
Sulfonamides	256	1	0													1								8	1024
Tetracyclines - Tetracycline	8	1	1																	1				1	64
Trimethoprim	2	1	0								1													0.5	32
Cephalosporins - Ceftazidim	2	1	0							1														0.25	16
Polymyxins - Colistin	2	1	0											1										2	4

Footnote:

AT resistance - 1 x.

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

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

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

Footnote:

Fully sensitive - 1 x.

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

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

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

Footnote:

ASSuTNxCpG resistance - 1 x, A resistance - 1 x.

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

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

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

Footnote:

Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of *S. Infantis* 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. Infantis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - at farm - Monitoring																												
	yes																												
	24																												
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest				
Aminoglycosides - Gentamicin	2	24	1						20	3			1											0.25	32				
Aminoglycosides - Kanamycin	8	24	0											24											4	128			
Aminoglycosides - Streptomycin	32	24	3												1	2	18	3							2	128			
Amphenicols - Chloramphenicol	16	24	0											10	14										2	64			
Amphenicols - Florfenicol	16	24	0											11	13											2	64		
Cephalosporins - Cefotaxime	0.5	24	0						7	16	1															0.06	4		
Fluoroquinolones - Ciprofloxacin	0.06	24	24							14	9	1														0.008	8		
Penicillins - Ampicillin	4	24	1								1	18	4		1											0.5	32		
Quinolones - Nalidixic acid	16	24	24																	24							4	64	
Sulfonamides	256	24	23															1					23			8	1024		
Tetracyclines - Tetracycline	8	24	24																	24							1	64	
Trimethoprim	2	24	0							24																	0.5	32	
Cephalosporins - Ceftazidim	2	24	0							17	7																0.25	16	
Polymyxins - Colistin	2	24	0										24															2	4

Footnote:

Resistance: A(S)SuTNxCpG resistance - 1 x; SSuTNxCp resistance - 3 x; (S)SuTNxCp resistance - 17 x; SuTNxCp resistance - 2 x, TNxCp resistance - 1 x. Note to (S): MIC = 32 microg/ml.

Table Antimicrobial susceptibility testing of *S. Derby* in Pigs - fattening pigs - at farm - Clinical investigations - quantitative data [Dilution method]

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

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

Footnote:

Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Pigs - fattening pigs - at farm - Clinical investigations - quantitative data [Dilution method]

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

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

Footnote:

ASSuT resistance - 1 x.

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations - quantitative data [Dilution method]

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

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations																									
	no																									
	3																									
	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest	
Aminoglycosides - Gentamicin	2	3	0							3															0.25	32
Aminoglycosides - Kanamycin	8	3	0											3											4	128
Aminoglycosides - Streptomycin	32	3	2											1			1		1						2	128
Amphenicols - Chloramphenicol	16	3	1										2					1							2	64
Amphenicols - Florfenicol	16	3	1										2					1							2	64
Cephalosporins - Cefotaxime	0.5	3	0					3																	0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	3	0			3																			0.008	8
Penicillins - Ampicillin	4	3	1								1	1					1								0.5	32
Quinolones - Nalidixic acid	16	3	0											3											4	64
Sulfonamides	256	3	2															1					2		8	1024
Tetracyclines - Tetracycline	8	3	3															1	2						1	64
Trimethoprim	2	3	0							3															0.5	32
Cephalosporins - Ceftazidim	2	3	0							3															0.25	16
Polymyxins - Colistin	2	3	0										3												2	4

Footnote:

ACSSuTF resistance - 1 x, SSuT resistance - 1 x, T resistance - 1 x.

Table Antimicrobial susceptibility testing of *S. Montevideo* in Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations - quantitative data [Dilution method]

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

S. Montevideo Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations																								
	no																								
	1																								
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	1	0							1														0.25	32
Aminoglycosides - Kanamycin	8	1	0											1										4	128
Aminoglycosides - Streptomycin	32	1	0												1									2	128
Amphenicols - Chloramphenicol	16	1	0											1										2	64
Amphenicols - Florfenicol	16	1	0											1										2	64
Cephalosporins - Cefotaxime	0.5	1	0					1																0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	1	0		1																			0.008	8
Penicillins - Ampicillin	4	1	0								1													0.5	32
Quinolones - Nalidixic acid	16	1	0											1										4	64
Sulfonamides	256	1	0															1						8	1024
Tetracyclines - Tetracycline	8	1	0										1											1	64
Trimethoprim	2	1	0								1													0.5	32
Cephalosporins - Ceftazidim	2	1	0							1														0.25	16
Polymyxins - Colistin	2	1	0										1											2	4

Footnote:

Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Sheep - animals under 1 year (lambs) - at farm - Clinical investigations - quantitative data [Dilution method]

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

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Sheep - animals under 1 year (lambs) - at farm - Clinical investigations																								
	no																								
	1																								
	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	1	0							1														0.25	32
Aminoglycosides - Kanamycin	8	1	0											1										4	128
Aminoglycosides - Streptomycin	32	1	0												1									2	128
Amphenicols - Chloramphenicol	16	1	0										1											2	64
Amphenicols - Florfenicol	16	1	0										1											2	64
Cephalosporins - Cefotaxime	0.5	1	0					1																0.06	4
Fluoroquinolones - Ciprofloxacin	0.06	1	0		1																			0.008	8
Penicillins - Ampicillin	4	1	0								1													0.5	32
Quinolones - Nalidixic acid	16	1	0											1										4	64
Sulfonamides	256	1	0																1					8	1024
Tetracyclines - Tetracycline	8	1	0									1												1	64
Trimethoprim	2	1	0								1													0.5	32
Cephalosporins - Ceftazidim	2	1	0							1														0.25	16
Polymyxins - Colistin	2	1	0										1											2	4

Footnote:

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 EUCAST ISO WHO/GSS		
			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 ISO		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	
	Streptomycin	EFSA	32	
Amphenicols	Chloramphenicol	EFSA	16	
Cephalosporins	Cefotaxime	EFSA	0.5	
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

Test Method Used		Standard methods used for testing		
Broth dilution		NCCLS/CLSI WHO/GSS EUCAST ISO		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			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

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 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. 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.

Animals

During 2011 there were investigated 949 animals for presence of *Campylobacter* spp. 61 samples were positive (22 x cattle, 3 x sheep, 16x pigs, 17x cats and dogs, 3x other animals).

Food

There were 36 samples of meat products from poultry (broilers, turkeys) and 2 samples of minced meat from broilers investigated without positive finding. From other foodstuffs 346 samples were investigated with positive findings of *Campylobacter jejuni* in 1 sample of sheep's milks' products

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. 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 sheep's milk - fresh - made from pasteurised milk - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	9	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	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		Single	25 g	2	0		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant	SVFI	Suspect sampling	Official sampling	food sample		Single	25 g	1	0		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail	SVFI	Suspect sampling	Official sampling	food sample		Single	25 g	2	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at processing plant	SVFI	Suspect sampling	Official sampling	food sample		Single	25 g	1	0		
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Single	25 ml	2	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
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Single	25 ml	2	0		
Dairy products (excluding cheeses) - fermented dairy products - at retail - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Single	25 ml	1	1		1
Eggs - table eggs - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Fish - unspecified - chilled - at processing plant - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	6	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	3	0		
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	45	0		
Meat from pig - minced meat - intended to be eaten raw - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
Milk, goats' - raw milk - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 ml	2	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		Single	25 ml	1	0		
Other processed food products and prepared dishes - pasta/rice salad - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	6	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 - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	10	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	163	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	26	2		2
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0		
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	50	0		
Vegetables - products - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at retail - domestic production - Monitoring			

Table Campylobacter in other food

	C. lari	C. upsaliensis	Thermophilic Campylobact er 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 retail - Surveillance			
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant			
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail			
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at processing plant			
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - at retail - domestic production - Monitoring			
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance			
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance			
Dairy products (excluding cheeses) - fermented dairy products - at retail - Surveillance			
Eggs - table eggs - at retail - domestic production - Monitoring			

Table Campylobacter in other food

	C. lari	C. upsaliensis	Thermophilic Campylobact er spp., unspecified
Fish - unspecified - chilled - at processing plant - domestic production - Monitoring			
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Surveillance			
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 - minced meat - intended to be eaten raw - at retail - Surveillance			
Milk, goats' - raw milk - Surveillance			
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 - pasta/rice salad - 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 - Monitoring			

Table Campylobacter in other food

	C. lari	C. upsaliensis	Thermophilic Campylobact er spp., unspecified
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Surveillance			
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring			
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring			
Vegetables - products - at retail - domestic production - Monitoring			

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 (<i>Gallus gallus</i>) - fresh - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	7	0		
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	26	0		
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - frozen - at retail	SVFI	Suspect sampling	Official sampling	food sample		Single	25 g	1	0		
Meat from broilers (<i>Gallus gallus</i>) - meat products - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	57	0		
Meat from poultry, unspecified - meat products - unspecified, ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	8	0		
Meat from poultry, unspecified - meat products - unspecified, ready-to-eat - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	5	0		
Meat from turkey - meat preparation - intended to be eaten cooked - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0		

Table Campylobacter in poultry meat

	C. lari	C. upsaliensis	Thermophilic Campylobact er spp., unspecified
Meat from broilers (<i>Gallus gallus</i>) - fresh - at retail - Surveillance			
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - at catering - Monitoring			
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - at catering - Monitoring			
Meat from broilers (<i>Gallus gallus</i>) - meat preparation - intended to be eaten cooked - frozen - at retail			
Meat from broilers (<i>Gallus gallus</i>) - meat products - at retail - Surveillance			
Meat from poultry, unspecified - meat products - unspecified, ready-to-eat - at catering - Surveillance			
Meat from poultry, unspecified - meat products - unspecified, ready-to-eat - at catering - Surveillance			
Meat from turkey - meat preparation - intended to be eaten cooked - at catering - Monitoring			

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
Birds - wild - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	6	1	1		
Cats - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	22	5		3	
Cats - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	6	1		1	
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	1	0			
Cattle (bovine animals) - breeding bulls - at farm - Monitoring	SVFI, SVI		Official sampling	animal sample		Animal	249	0			
Cattle (bovine animals) - breeding bulls - at farm - Monitoring	SVFI, SVI		Industry sampling	animal sample		Animal	332	0			
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	4	0			
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > rectum-anal swab		Animal	64	5		2	
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	56	17	1	3	
Dogs - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	1	0			

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 - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	103	10	2	2	
Dogs - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	13	1		1	
Ducks - meat production flocks - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	1	0			
Falcons - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	1	0			
Ferrets - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	1	1	1		
Gallus gallus (fowl) - broilers - before slaughter - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Flock	1	1	1		
Monkeys - zoo animal - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	1	0			
Parrots - zoo animals - at zoo - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > organ/tissue		Animal	6	0			
Pigeons - meat production flocks - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Flock	4	0			
Pigs - at farm - Clinical investigations (piglets, gilts)	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	37	13	4	1	
Pigs - fattening pigs - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > organ/tissue		Animal	6	3	3		
Rabbits - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	1	0			

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
Sheep - animals over 1 year - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > faeces		Animal	31	3	3		
Sheep - animals over 1 year - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample		Animal	1	0			
Turtles - pet animals - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > faeces		Animal	1	0			
	C. upsaliensis	Thermophilic Campylobacter spp., unspecified	C. fetus								
Birds - wild - at farm - Clinical investigations											
Cats - pet animals - Clinical investigations	1	1									
Cats - pet animals - Clinical investigations											
Cattle (bovine animals) - adult cattle over 2 years - at farm - Clinical investigations											
Cattle (bovine animals) - breeding bulls - at farm - Monitoring											
Cattle (bovine animals) - breeding bulls - at farm - Monitoring											
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations											
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations				4							

Table Campylobacter in animals

	C. upsaliensis	Thermophilic Campylobact er spp., unspecified	C. fetus
Cattle (bovine animals) - calves (under 1 year) - at farm - Clinical investigations		12	2
Dogs - pet animals - Clinical investigations			
Dogs - pet animals - Clinical investigations	2	4	
Dogs - pet animals - Clinical investigations			
Ducks - meat production flocks - at farm - Clinical investigations			
Falcons - Clinical investigations			
Ferrets - pet animals - Clinical investigations			
Gallus gallus (fowl) - broilers - before slaughter - at farm - Clinical investigations			
Monkeys - zoo animal - at zoo - Clinical investigations			
Parrots - zoo animals - at zoo - Clinical investigations			
Pigeons - meat production flocks - at farm - Clinical investigations			
Pigs - at farm - Clinical investigations (piglets, gilts)		9	
Pigs - fattening pigs - at farm - Clinical investigations			
Rabbits - Clinical investigations			

Table Campylobacter in animals

	C. upsaliensis	Thermophilic Campylobact er spp., unspecified	C. fetus
Sheep - animals over 1 year - at farm - Clinical investigations			
Sheep - animals over 1 year - at farm - Clinical investigations			
Turtles - pet animals - 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- dics 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, Sweden) 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 resistance 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 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	C. coli		C. jejuni		Campylobacter spp., unspecified	
			yes			
			5			
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin			5	0		
Fluoroquinolones - Ciprofloxacin			5	3		
Macrolides - Erythromycin			5	2		
Quinolones - Nalidixic acid			5	5		
Tetracyclines - Tetracycline			5	1		
Fully sensitive			5	0		
Resistant to 1 antimicrobial			5	0		
Resistant to 2 antimicrobials			5	3		
Resistant to 3 antimicrobials			5	1		
Resistant to 4 antimicrobials			5	1		
Resistant to >4 antimicrobials			5	0		

Table Antimicrobial susceptibility testing of *Campylobacter* in Pigs

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
	Isolates out of a monitoring program (yes/no)		yes			
	Number of isolates available in the laboratory		7		1	
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin	7	0	1	0		
Fluoroquinolones - Ciprofloxacin	7	4	1	1		
Macrolides - Erythromycin	7	2	1	1		
Quinolones - Nalidixic acid	7	4	1	1		
Tetracyclines - Tetracycline	7	4	1	1		
Fully sensitive	7	0				
Resistant to 1 antimicrobial	7	0				
Resistant to 2 antimicrobials	7	4				
Resistant to 3 antimicrobials	7	1				
Resistant to 4 antimicrobials	7	1				
Resistant to >4 antimicrobials	7	1	1	1		

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

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
	Isolates out of a monitoring program (yes/no)		yes			
	Number of isolates available in the laboratory		1			
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin	1	0				
Fluoroquinolones - Ciprofloxacin	1	0				
Macrolides - Erythromycin	1	0				
Quinolones - Nalidixic acid	1	0				
Tetracyclines - Tetracycline	1	0				
Fully sensitive	1	1				
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	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		EURL-AR		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	
	Streptomycin	EFSA	4	
Fluoroquinolones	Ciprofloxacin	EFSA	1	
Macrolides	Erythromycin	EFSA	16	
Quinolones	Nalidixic acid		32	
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		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			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		
Broth dilution		EURL-AR		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	
	Streptomycin	EFSA	4	
Fluoroquinolones	Ciprofloxacin	EFSA	1	
Macrolides	Erythromycin	EFSA	16	
Quinolones	Nalidixic acid		32	
Tetracyclines	Tetracycline	EFSA	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		EURL-AR		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	1	
	Streptomycin	EFSA	2	
Fluoroquinolones	Ciprofloxacin	EFSA	1	
Macrolides	Erythromycin	EFSA	4	
Quinolones	Nalidixic acid		16	
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		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			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		
Broth dilution		EURL-AR		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	1	
	Streptomycin	EFSA	2	
Fluoroquinolones	Ciprofloxacin	EFSA	1	
Macrolides	Erythromycin	EFSA	4	
Quinolones	Nalidixic acid		16	
Tetracyclines	Tetracycline	EFSA	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.

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 2011 all cases of abortion in cattle, sheep and goats are

Milk and dairy products

Regarding milk testing and products thereof, the types of samples are specified in Regulation (EC) No 2073/2005. The samples according to their character and predisposition to Listeria (aw, pH, shelf-life) were tested for Listeria presence or enumeration analysis.

A total 1188 samples were tested for presence of *Listeria monocytogenes* with positive finding in 7 samples (0,6%). The most positive findings were found in cheeses made from raw or low heat treated sheep's milk (5x) and cheeses made from cow's milk.

Other foodstuffs

In respect of other food, mainly meat and meat products a processed food and dishes were under inspection. A total 2247 samples of other food were investigated were tested for LM presence, thereof 12 positive samples (0,5%) and thereof 1 sample was beyond 100 CFU/g.

The most positive findings were detected in ready-to-eat processed food (7x) as sandwiches and ready-to-eat salads. All exceeded limits of *Listeria monocytogenes* in 1g were recorded in one sample of sandwich. Further finding were in fishery products (1x), in pork meat products (2x) and in meat products from mixed pork and beef meat (2x).

Animals

In 2011 there were investigated 928 samples of animal tissues and blood, mostly at farm, for *Listeria* spp. with positive findings in 32 samples of cattle and sheep.

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. Samples in animals are tested in case of suspicion and clinical symptoms. There is obligatory notification of aborts 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

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk		Batch	25 ml	2	0	2	0
Milk, cows' - pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk		Batch	25 ml	14	0	14	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		Batch	10 g	8	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	87	2	87	2
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	13	0	9	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	23	0	23	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	1	0
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	11	0	11	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) - butter - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	25	0		
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 ml	12	0	12	0
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 ml	15	0		
Cheeses made from cows' milk - curd - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0	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	4	0	4	0
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	30	0		
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	3	0		
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	31	0		
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	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 L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	17	0	17	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	17	0		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	91	0		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	4	0		
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	7	0	7	0
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	1	0		
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	3	0		
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	9	0		
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Cheeses made from 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	3	1	3	1
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	0	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	161	2	161	2
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	3	0		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	1	1	1
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	41	1	41	1
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	7	0	7	0
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	28	0	28	0

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	1	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	1	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	26	0		
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	1	0	1	0
Dairy products (excluding cheeses) - dairy desserts - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	6	0	6	0
Dairy products (excluding cheeses) - dairy desserts - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	8	0		
Dairy products (excluding cheeses) - dairy desserts - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	2	0		
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	5	0		

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - made from pasteurised milk - 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 - ready-to-eat - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	2	0		
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	62	0		
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	1	0		
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - made from pasteurised milk - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	6	0	6	0
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0	1	0
Dairy products (excluding cheeses) - fermented dairy products - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	4	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) - ice-cream - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	1	0		
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	17	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	5	0
Dairy products (excluding cheeses) - milk powder and whey powder - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	7	0		
Dairy products (excluding cheeses) - sour milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 ml	4	0	4	0
Dairy products (excluding cheeses) - sour milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 ml	1	0	1	0
Dairy products (excluding cheeses) - sour milk - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 ml	3	0		
Dairy products (excluding cheeses) - yoghurt - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	13	0	13	0
Dairy products (excluding cheeses) - yoghurt - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	55	0		
Infant formula - dried - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	98	0	76	0
Infant formula - dried - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	27	0	12	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
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	25	0	25	0
Milk, cows' - UHT milk - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk		Batch	10 ml	20	0		
Milk, cows' - UHT milk - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample > milk		Batch	10 ml	5	0		
Milk, cows' - pasteurised milk - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample > milk		Batch	10 ml	20	0		
Milk, cows' - pasteurised milk - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample > milk		Batch	10 ml	29	0		
Milk, cows' - raw milk - at farm - Monitoring	PHA	Objective sampling	Official sampling	food sample > milk		Single	25 ml	6	0	6	0
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	38	0	38	0
	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g								
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance											
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. monocytogenes > 100 cfu/g
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	8	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance			
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at retail - Surveillance	4	0	0
Cheeses made from cows' milk - hard - made from pasteurised 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			
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	25	0	0
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	15	0	0

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses made from cows' milk - curd - at retail - domestic production - 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 - domestic production - Surveillance	30	0	0
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - domestic production - Surveillance	3	0	0
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - domestic production - Surveillance	31	0	0
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - domestic production - Surveillance	6	0	0
Cheeses made from cows' milk - hard - 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 retail - domestic production - Surveillance	17	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance	91	0	0

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance	4	0	0
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at processing plant - Surveillance			
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance	1	0	0
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance	3	0	0
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance	9	0	0
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at retail - domestic production - Surveillance	2	0	0
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 processing plant - Surveillance			
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance			

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance	3	0	0
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance			
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance			
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 raw or low heat-treated milk - at processing plant - Surveillance			
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance	1	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance	1	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance	26	0	0

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Dairy products (excluding cheeses) - butter - made from pasteurised milk - at processing plant - Surveillance			
Dairy products (excluding cheeses) - dairy desserts - at processing plant - Surveillance			
Dairy products (excluding cheeses) - dairy desserts - at retail - domestic production - Surveillance	8	0	0
Dairy products (excluding cheeses) - dairy desserts - at retail - domestic production - Surveillance	2	0	0
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - at retail - domestic production - Monitoring	5	0	0
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - made from pasteurised milk - at processing plant - Surveillance			
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - made from pasteurised milk - at retail - domestic production - Surveillance	2	0	0
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - made from pasteurised milk - at retail - domestic production - Surveillance	62	0	0

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - made from pasteurised milk - at retail - domestic production - Surveillance	1	0	0
Dairy products (excluding cheeses) - dairy products, not specified - ready-to-eat - made from pasteurised milk - at retail - domestic production - Surveillance			
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance			
Dairy products (excluding cheeses) - fermented dairy products - at retail - domestic production - Surveillance	2	0	0
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - Surveillance	4	0	0
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - domestic production - Surveillance	1	0	0
Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at retail - domestic production - Surveillance	17	0	0
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance			
Dairy products (excluding cheeses) - milk powder and whey powder - at retail - domestic production - Surveillance	7	0	0

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Dairy products (excluding cheeses) - sour milk - at processing plant - Surveillance			
Dairy products (excluding cheeses) - sour milk - at processing plant - Surveillance			
Dairy products (excluding cheeses) - sour milk - at retail - domestic production - Surveillance	3	0	0
Dairy products (excluding cheeses) - yoghurt - at processing plant - Surveillance			
Dairy products (excluding cheeses) - yoghurt - at retail - domestic production - Surveillance	55	0	0
Infant formula - dried - at retail - domestic production - Surveillance	22	0	0
Infant formula - dried - at retail - domestic production - Surveillance	15	0	0
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Surveillance			
Milk, cows' - UHT milk - at retail - domestic production - Surveillance	20	0	0
Milk, cows' - UHT milk - at retail - domestic production - Surveillance	5	0	0
Milk, cows' - pasteurised milk - at retail - domestic production - Surveillance	20	0	0
Milk, cows' - pasteurised milk - at retail - domestic production - Surveillance	29	0	0

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Milk, cows' - raw milk - at farm - Monitoring	3	0	0
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Surveillance			

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	7	0	7	0
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	56	0	56	0
Fish - smoked - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	7	0	7	0
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	29	0	29	0
Coconut - coconut products - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Confectionery products and pastes - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	2	0	2	0
Fish - raw - frozen - at retail - imported - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	1	1	1
Fish - smoked - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	16	0		
Fishery products, unspecified - ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	8	0	8	0
Fishery products, unspecified - ready-to-eat - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	3	0		
Fishery products, unspecified - ready-to-eat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	8	0	8	0
Fishery products, unspecified - ready-to-eat - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	14	0		

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Fishery products, unspecified - ready-to-eat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	6	0	6	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	36	0	30	0
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	5	0	5	0
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	3	0		
Fruits - pre-cut - ready-to-eat - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Fruits - products - dried - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0	2	0
Fruits - products - dried - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	7	0		
Fruits - products - fruit purée - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	1	0		
Infant formula - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	74	0	54	0
Infant formula - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	60	0	30	0
Infant formula - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	30	0	20	0
Infant formula - dried - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	3	0	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 L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Infant formula - dried - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	36	0	36	0
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	17	0	10	0
Juice - mixed juice - pasteurised - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 ml	4	0		
Juice - vegetable juice - unpasteurised - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 ml	1	0	1	0
Juice - vegetable juice - unpasteurised - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 ml	1	0		
Meat from bovine animals - meat products - fermented sausages - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	1	0		
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	26	0		
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	3	0		
Meat from pig - meat products - cooked ham - non-sliced - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	6	0	6	0
Meat from pig - meat products - cooked ham - non-sliced - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	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 L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Meat from pig - meat products - cooked ham - non-sliced - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	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	8	1	8	1
Meat from pig - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	9	0		
Meat from pig - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	1	1		
Meat from pig - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	58	0		
Meat from pig - meat products - cooked, ready-to-eat - chilled - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	10	0	10	0
Meat from pig - meat products - cooked, ready-to-eat - chilled - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	5	0		
Meat from pig - meat products - raw and intended to be eaten raw - chilled - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	2	0	2	0
Meat from pig - meat products - raw and intended to be eaten raw - chilled - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	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 L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	25 g	23	0	23	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	207	2	207	2
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	103	0		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	2	0		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	18	0		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	23	0	23	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	7	0		

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 g	14	0		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	22	0		
Nuts and nut products - dried - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0	1	0
Nuts and nut products - dried - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	6	0		
Other processed food products and prepared dishes - sandwiches - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	82	1	24	1
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	30	0	30	0
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	40	0	40	0
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	10	0		
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	7	0		

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	5	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	20	1	15	1
Other processed food products and prepared dishes - sandwiches - with meat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	15	0	15	0
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	17	0	17	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	10	1	10	1
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - chilled - 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 - unspecified - ready-to-eat foods - chilled - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	11	0		
Other products of animal origin - gelatin and collagen - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	1	0		
Ready-to-eat salads - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	5	0		
Ready-to-eat salads - containing mayonnaise - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	14	1	14	1

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	355	1	355	1
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	168	0		
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	7	0	7	0
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	56	1	56	1
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	240	1	168	1
Sauce and dressings - mayonnaise - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	1	0		
Seeds, sprouted - ready-to-eat - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	1	0		
Spices and herbs - dried - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	3	0		
Spices and herbs - dried - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	25	0		
Spices and herbs - dried - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	1	0		
Vegetables - pre-cut - ready-to-eat - at processing plant - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	18	0	10	0
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	25 g	5	0	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 L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	25 g	10	0	10	0
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	33	0	30	0
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	9	0		
Vegetables - products - at catering - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	25 g	1	0	1	0
Vegetables - products - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	14	0	10	0
Vegetables - products - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	13	0	2	0

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance			
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance			
Fish - smoked - at processing plant - Surveillance			
Other processed food products and prepared dishes - sandwiches - at retail - Surveillance			

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Coconut - coconut products - at retail - domestic production - Surveillance	2	0	0
Confectionery products and pastes - at retail - domestic production - Monitoring			
Fish - raw - frozen - at retail - imported - Surveillance			
Fish - smoked - at retail - domestic production - Surveillance	16	0	0
Fishery products, unspecified - ready-to-eat - at processing plant - Surveillance			
Fishery products, unspecified - ready-to-eat - at retail - domestic production - Surveillance	3	0	0
Fishery products, unspecified - ready-to-eat - at retail - domestic production - Surveillance			
Fishery products, unspecified - ready-to-eat - at retail - domestic production - Surveillance	14	0	0
Fishery products, unspecified - ready-to-eat - at retail - domestic production - Surveillance			
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - Surveillance	6	0	0
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - domestic production - Monitoring			

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - domestic production - Monitoring	3	0	0
Fruits - pre-cut - ready-to-eat - at retail - domestic production - Surveillance	2	0	0
Fruits - products - dried - at processing plant - Surveillance			
Fruits - products - dried - at retail - Surveillance	7	0	0
Fruits - products - fruit purée - at retail - domestic production - Monitoring	1	0	0
Infant formula - at retail - domestic production - Monitoring	20	0	0
Infant formula - at retail - domestic production - Monitoring	30	0	0
Infant formula - at retail - domestic production - Surveillance	10	0	0
Infant formula - dried - at retail - domestic production - Monitoring	3	0	0
Infant formula - dried - at retail - domestic production - Surveillance			
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Monitoring	7	0	0
Juice - mixed juice - pasteurised - at retail - domestic production - Surveillance	4	0	0

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Juice - vegetable juice - unpasteurised - at processing plant - Surveillance			
Juice - vegetable juice - unpasteurised - at retail - domestic production - Surveillance	1	0	0
Meat from bovine animals - meat products - fermented sausages - at retail - domestic production - Surveillance	1	0	0
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	26	0	0
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	3	0	0
Meat from pig - meat products - cooked ham - non-sliced - at processing plant - Surveillance			
Meat from pig - meat products - cooked ham - non-sliced - at retail - domestic production - Surveillance	5	0	0
Meat from pig - meat products - cooked ham - non-sliced - at retail - domestic production - Surveillance	1	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 - domestic production - Surveillance	9	0	0

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from pig - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	1	1	0
Meat from pig - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	58	0	0
Meat from pig - meat products - cooked, ready-to-eat - chilled - at processing plant - Surveillance			
Meat from pig - meat products - cooked, ready-to-eat - chilled - at retail - domestic production - Surveillance	5	0	0
Meat from pig - meat products - raw and intended to be eaten raw - chilled - at processing plant - Surveillance			
Meat from pig - meat products - raw and intended to be eaten raw - chilled - at retail - domestic production - Surveillance	5	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at processing plant - Surveillance			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at processing plant - Surveillance			

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	103	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	2	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	18	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at processing plant - Surveillance			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance	7	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance	14	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance	22	0	0
Nuts and nut products - dried - at processing plant - Surveillance			

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Nuts and nut products - dried - at retail - domestic production - Surveillance	6	0	0
Other processed food products and prepared dishes - sandwiches - at processing plant - Monitoring	58	0	1
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Monitoring			
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Monitoring			
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Monitoring	10	0	0
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Monitoring	7	0	0
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Surveillance	5	0	0
Other processed food products and prepared dishes - sandwiches - with meat - at retail - domestic production - Surveillance	5	0	0
Other processed food products and prepared dishes - sandwiches - with meat - at retail - domestic production - Surveillance			

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
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 - Monitoring			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - chilled - at processing plant - Surveillance			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - chilled - at retail - domestic production - Surveillance	11	0	0
Other products of animal origin - gelatin and collagen - at processing plant - Surveillance	1	0	0
Ready-to-eat salads - at retail - domestic production - Surveillance	5	0	0
Ready-to-eat salads - containing mayonnaise - at processing plant - Monitoring			
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring			
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring	168	0	0
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring			
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Surveillance	56	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 - domestic production - Surveillance	72	0	0
Sauce and dressings - mayonnaise - at retail - domestic production - Monitoring	1	0	0
Seeds, sprouted - ready-to-eat - at retail - domestic production - Surveillance	1	0	0
Spices and herbs - dried - at retail - domestic production - Monitoring	3	0	0
Spices and herbs - dried - at retail - domestic production - Surveillance	25	0	0
Spices and herbs - dried - at retail - domestic production - Surveillance	1	0	0
Vegetables - pre-cut - ready-to-eat - at processing plant - domestic production - Monitoring	8	0	0
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Monitoring			
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Monitoring			
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Surveillance	3	0	0
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Surveillance	9	0	0
Vegetables - products - at catering - Surveillance			

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Vegetables - products - at retail - domestic production - Surveillance	4	0	0
Vegetables - products - at retail - domestic production - Surveillance	11	0	0

2.3.3 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
Cattle (bovine animals) - dairy cows - at farm - Monitoring	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	18	1	1	
Sheep - at farm - Monitoring	SVFI	Objective sampling	Official sampling	animal sample		Animal	120	1	1	
Goats - at farm - Monitoring	SVFI	Objective sampling	Official sampling	animal sample		Animal	9	0		
Cattle (bovine animals) - dairy cows - at farm - Monitoring	SVFI, SVI	Objective sampling	Official sampling	animal sample > foetus/stillbirth		Animal	460	12	12	
Cattle (bovine animals) - dairy cows - at farm - Monitoring	SVI	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	71	3	3	
Cattle (bovine animals) - dairy cows - at farm - Monitoring	SVFI, SVI		Industry sampling	animal sample > blood		Animal	1	0		
Dogs - Monitoring	SVFI		Industry sampling	animal sample > blood		Animal	2	0		
Goats - at farm - Clinical investigations	SVFI			animal sample > organ/tissue		Animal	1	0		
Goats - at farm - Monitoring	SVFI		Industry sampling	animal sample > blood		Animal	2	0		
Goats - at farm - Monitoring	SVFI	Objective sampling	Official sampling	animal sample > blood		Animal	1	0		

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
Goats - at farm - Monitoring	SVFI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	1	0		
Pigs - fattening pigs - at farm - Clinical investigations	SVFI			animal sample > organ/tissue		Animal	1	0		
Sheep - at farm - Clinical investigations	SVI			animal sample > organ/tissue		Animal	46	2	2	
Sheep - at farm - Monitoring	SVFI, SVI	Objective sampling	Official sampling	animal sample > foetus/stillbirth		Animal	164	6	6	
Sheep - at farm - Monitoring	SVFI, SVI	Objective sampling	Official sampling	animal sample > blood		Animal	26	4	4	
Sheep - at farm - Monitoring	SVFI		Industry sampling	animal sample > blood		Animal	4	3	3	
Sheep - at farm - Monitoring	SVFI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	1	0		

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.

Foodstuffs

A total 534 samples were examined for presence of VTEC. In 3 samples was detected VTEC. 2 samples of meat preparations from pig meat were positive for O157, one of them was positive also for O104. VTEC O103 was detected in 1 sample of ready-to-eat sprouts.

Diagnostical method used : cultivation, VIDAS, PCR

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
Seeds, sprouted - ready-to-eat - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample			Batch	10 g	1	0	
Seeds, sprouted - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample			Single	10 g	1	0	
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample			Single	10 g	21	0	
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample			Batch	10 g	5	0	
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample			Single	10 g	42	0	
Meat from pig - meat preparation - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample			Batch	10 g	6	2	2
Meat from poultry, unspecified - meat preparation - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample			Batch	10 g	1	0	
Meat, mixed meat - meat preparation - at retail - domestic production - Surveillance	SVFI	Selective sampling	Official sampling	food sample			Batch	10 g	2	0	
Other processed food products and prepared dishes - unspecified - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample			Single	10 g	8	0	

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) - VTEC O157
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample			Single	10 g	67	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample			Single	1 g	5	0
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample			Single	10 g	88	0
Seeds, sprouted - ready-to-eat - at retail - domestic production - Surveillance	SVFI	Objective sampling	Official sampling	food sample			Batch	10 g	9	1
Spices and herbs - dried - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample			Batch	1 g	29	0
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample			Batch	25 g	20	0
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample			Single	25 g	22	0
Vegetables - pre-cut - ready-to-eat - at processing plant - Monitoring	PHA	Objective sampling	Official sampling	food sample			Single	10 g	35	0
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample			Single	10 g	72	0
Water - bottled water - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample			Single	125 ml	100	0

Table VT *E. coli* in food

	Verotoxigenic <i>E. coli</i> (VTEC) - VTEC non- O157	Verotoxigenic <i>E. coli</i> (VTEC) - VTEC, unspecified	Verotoxigenic <i>E. coli</i> (VTEC) - VTEC O103	Verotoxigenic <i>E. coli</i> (VTEC) - VTEC O104
Seeds, sprouted - ready-to-eat - at processing plant - Surveillance				
Seeds, sprouted - ready-to-eat - at retail - Surveillance				
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - domestic production - Monitoring				
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Monitoring				
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Monitoring				
Meat from pig - meat preparation - at retail - domestic production - Surveillance				1
Meat from poultry, unspecified - meat preparation - at retail - domestic production - Surveillance				
Meat, mixed meat - meat preparation - at retail - domestic production - Surveillance				
Other processed food products and prepared dishes - unspecified - at retail - domestic production - Monitoring				
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring				

Table VT E. coli in food

	Verotoxigenic E. coli (VTEC) - VTEC non- O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified	Verotoxigenic E. coli (VTEC) - VTEC O103	Verotoxigenic E. coli (VTEC) - VTEC O104
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring				
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring				
Seeds, sprouted - ready-to-eat - at retail - domestic production - Surveillance	1		1	
Spices and herbs - dried - at retail - domestic production - Monitoring				
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring				
Vegetables - pre-cut - ready-to-eat - at catering - Monitoring				
Vegetables - pre-cut - ready-to-eat - at processing plant - Monitoring				
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance				
Water - bottled water - at retail - domestic production - Monitoring				

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 2011 there were investigated 7 samples with no positive finding.

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

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 laboratory 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 tuberculination of all animals over six weeks of age is performed (immediately in the case if minimum 42 days elapsed after the last tuberculination)
- in case of undiscriminated 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 tuberculination (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 Tuberculosis in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Mycobacterium	M. bovis	M. tuberculosis	Mycobacterium spp., unspecified
Cattle (bovine animals) - at slaughterhouse	SVFI, SVI			animal sample > lymph nodes		Animal	3	0			
Gallus gallus (fowl) - unspecified - at farm	SVFI, SVI					Animal	1	0			
Parrots	SVFI, SVI					Animal	1	0			
Pigs - at slaughterhouse	SVFI, SVI			animal sample > lymph nodes		Animal	2	0			

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	8635	463574	8635	100	0	0	every four years	71680	0	0	0
Total : 1)	8635	463574	8635	100	0	0	N.A.	71680	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 2011“ continuous monitoring of epidemiological situation through monitoring of antibodies against Brucella in holdings was carried out in 2011. Detection of postinfection anti-brucella antibodies was performed within targeted intravital diagnostics in case of suspicion that aborts 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.

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 (B.melitensis) 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 2011 – 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 6 weeks of age intended for breeding and production and breeding bulls over 6 weeks 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 bacteriophags

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 epizoologically 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 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.

Results of the investigation

Bacteriologically there were in cattle investigated 536 samples and serologically 75047 samples in 2011. 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 2011”
- 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 bacteriophags

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 2011.“

Notification system in place

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.

Results of the investigation

In 2011, in goats there were investigated 12 samples bacteriologically and 833 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 2011”

-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 bacteriophags

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 2011“.

Notification system in place

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.

Results of the investigation

In 2011, 297 samples from ewes were investigated bacteriologically and 23 499 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 - Monitoring	SVFI, SVI		Official sampling	animal sample > blood		Animal	71599	0			
Cattle (bovine animals) - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	3448	0			
Cattle (bovine animals) - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	536	0			
Deer - farmed - fallow deer - at farm - Monitoring	SVFI, SVI			animal sample > blood		Animal	30	0			
Deer - farmed - red deer - at farm - Monitoring	SVFI, SVI			animal sample > blood		Animal	192	0			
Dogs - at farm - Monitoring	SVFI, SVI			animal sample > blood		Animal	51	0			
Goats - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	55	0			
Goats - at farm - Monitoring	SVFI, SVI		Official sampling	animal sample > blood		Animal	778	0			
Goats - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	12	0			
Mouflons - at farm - Monitoring	SVFI, SVI			animal sample > blood		Animal	30	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
Pigs - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	389	0			
Pigs - at farm - Monitoring	SVFI, SVI		Official sampling	animal sample > blood		Animal	2068	0			
Pigs - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	87	0			
Sheep - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	297	0			
Sheep - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood		Animal	1146	0			
Sheep - at farm - Monitoring	SVFI, SVI		Official and industry sampling	animal sample > blood		Animal	22353	0			
Solipeds, domestic - horses - at farm - Monitoring	SVFI, SVI			animal sample > blood		Animal	46	0			
Solipeds, domestic - horses - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > foetus/stillbirth		Animal	6	0			
Zoo animals, all - Monitoring	SVFI, SVI			animal sample > blood		Animal	15	0			

Table Brucellosis in other animals

	Brucella spp., unspecified
Cattle (bovine animals) - at farm - Monitoring	
Cattle (bovine animals) - at farm - Monitoring	
Cattle (bovine animals) - at farm - Monitoring	
Deer - farmed - fallow deer - at farm - Monitoring	
Deer - farmed - red deer - at farm - Monitoring	
Dogs - at farm - Monitoring	
Goats - at farm - Monitoring	
Goats - at farm - Monitoring	
Goats - at farm - Monitoring	
Mouflons - at farm - Monitoring	
Pigs - at farm - Monitoring	
Pigs - at farm - Monitoring	
Pigs - at farm - Monitoring	
Sheep - at farm - Monitoring	
Sheep - at farm - Monitoring	
Sheep - at farm - Monitoring	
Solipeds, domestic - horses - at farm - Monitoring	
Solipeds, domestic - horses - at farm - Monitoring	

Table Brucellosis in other animals

	Brucella spp., unspecified
Zoo animals, all - Monitoring	

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.

	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
Region														
Slovenská Republika	3663	388863	3663	100	0	0	2918	22888	0	435	0	139	0	0
Total :	¹⁾ 3663	388863	3663	100	0	0	2918	22888	0	435	0	139	0	0

Comments:

1) N.A.

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

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance					Investigations of suspect cases										
	Herds	Animals	Number of herds	%	Number of herds	%	Serological tests			Examination of bulk milk		Information about			Epidemiological investigation							
							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	Sero logically	BST	Number of animals examined microbiologically	Number of animals positive microbiologically
Slovenská Republika	8635	463574	8635	100	0	0	1735	70250	0	0	0	0	1893	0	0	1893	0	0	0	282	0	
Total :	¹⁾	8635	463574	8635	100	0	0	1735	70250	0	0	0	0	1893	0	0	1893	0	0	0	282	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.

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
Fish - raw - chilled - at processing plant - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	1	0		
	Yersinia spp., unspecified	Y. enterocolitica - O:3	Y. enterocolitica - O:9	Y. enterocolitica - unspecified							
Fish - raw - chilled - at processing plant - 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	<i>Y. enterocolitica</i>	<i>Y. pseudotuberculosis</i>	<i>Yersinia</i> spp., unspecified
Cats - Clinical investigations	SVFI, SVI			animal sample > rectum-anal swab		Animal	6	0			
Cats - Clinical investigations	SVFI, SVI			animal sample > faeces		Animal	12	0			
Dogs - Clinical investigations	SVFI, SVI			animal sample > rectum-anal swab		Animal	13	0			
Dogs - Clinical investigations	SVFI, SVI			animal sample > organ/tissue		Animal	1	0			
Dogs - Clinical investigations	SVFI, SVI			animal sample > faeces		Animal	59	0			

	<i>Y. enterocolitica</i> - O:3	<i>Y. enterocolitica</i> - O:9	<i>Y. enterocolitica</i> - unspecified
Cats - Clinical investigations			
Cats - Clinical investigations			
Dogs - Clinical investigations			
Dogs - Clinical investigations			

Table Yersinia in animals

	Y. enterocolitica - O:3	Y. enterocolitica - O:9	Y. enterocolitica - unspecified
Dogs - Clinical investigations			

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.

Endemic areas of trichinellosis occurrence are East and Central Slovakia. In West Slovakia only rare occurrence of a parasite in humans, wild boar population and in red fox is found so far.

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

In 2011, except obligatory meat inspection and examination according Commission Regulation 2075/2005 also monitoring of trichinellosis in foxes was performed. Totally 830859 samples from susceptible animals were investigated for presence of *Trichinella* spp. with positive findings in 42 wildlife animals, 38 positive foxes and 4 positive wild boars.

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

musculus masseter or diaphragma muscle

Methods of sampling (description of sampling techniques)

taking over 10g of the specimen

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

In 2011, no samples in horses were investigated.

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

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.

In 2011 there were totally investigated 815085 pigs from slaughterhouses and 174 samples of pigs from home slaughters with negative results.

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
Badgers - wild - from hunting - Monitoring	SVFI, SVI	Selective sampling				Animal	2	0		
Bears - wild - from hunting - Monitoring	SVFI, SVI	Objective sampling				Animal	7	0		
Foxes - wild - from hunting - Monitoring ¹⁾	SVFI, SVI	Selective sampling	Official sampling	animal sample > organ/tissue		Animal	186	38		38
Pigs - at farm - Monitoring	SVFI, SVI	Selective sampling	Official sampling	animal sample > organ/tissue		Animal	174	0		
Pigs - at slaughterhouse - Surveillance	SVFI, SVI	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	815085	0		
Wild boars - wild - from hunting - Surveillance	SVFI, SVI	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	15405	4		4

Comments:

¹⁾ Animal sample: organ/tissue – small intestine

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 2011, 1533 animals were investigated for presence of *Echinococcus* spp with positive finding in 31 foxes.

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
Raccoon dogs	SVFI			animal sample		Animal	Slovenská Republika	2	0		
Foxes - Monitoring	SVFI, SVI	Selective sampling	Official sampling	animal sample > organ/tissue		Animal	Slovenská Republika	186	31		31
African wild dog - zoo animals	SVFI			animal sample		Animal	Slovenská Republika	1	0		
Cats - pet animals	SVFI, SVI			animal sample		Animal	Slovenská Republika	228	0		
Dogs - pet animals	SVFI, SVI			animal sample		Animal	Slovenská Republika	1112	0		
Leopards - zoo animals	SVFI			animal sample		Animal	Slovenská Republika	2	0		
Lynx - zoo animal	SVFI			animal sample		Animal	Slovenská Republika	1	0		
Wolves - zoo animal	SVFI			animal sample		Animal	Slovenská Republika	1	0		

	Echinococcus spp., unspecified
Raccoon dogs	
Foxes - Monitoring	
African wild dog - zoo animals	
Cats - pet animals	

Table Echinococcus in animals

	Echinococcus spp., unspecified
Dogs - pet animals	
Leopards - zoo animals	
Lynx - zoo animal	
Wolves - zoo animal	

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.

Sampling frequencies are not of a continuous sequence; they are set by the current epizootological situation and on individual requests of breeders of domestic and farm animals or in case of suspicion for toxoplasmosis.

Blood samples for antibody confirmation are drawn into syringes not containing EDTA, whereby using serum for testing. One of the most extensively used methods within the basic testing is a complement fixation test (CFT) whose results indicate good reproducibility, and in repeated testing they illustrate evident dynamics of specific antibodies. There are also used immunoenzymatic tests for detection of infection phases in laboratories.

Faeces of cats are also examined by flotation method for the presence of oocysts.

In 2011 totally 294 samples were serologically investigated for toxoplasmosis with positive reaction in 27 cases, it is 9,2% positivity. The most seropositive animals were cats (15%)

In cats, also 77 samples of faeces were investigated with 5 positive findings (6,5%).

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 foetuses.

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
Sheep - at farm - Monitoring	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > blood			Animal	1	1	1	
Goats - at farm - Clinical investigations	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > blood			Animal	6	1	1	
Dogs - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > blood			Animal	40	5	5	
Cats - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > blood			Animal	120	18	18	
Antelopes - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > blood			Animal	1	0		
Cats - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > faeces			Animal	77	5	5	
Cattle (bovine animals) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > blood			Animal	3	0		
Poultry, unspecified - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample > blood			Animal	2	2	2	
Rodents - laboratory animal - Monitoring	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > blood			Animal	120	0		
Zoo animals, all - Monitoring	SVFI	Suspect sampling	Industry sampling	animal sample > blood			Animal	1	0		

Table Toxoplasma in animals

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 is 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.

In 2011, within Slovak Republic, 3628 animals were tested, with no positive finding of lyssavirus. Last positive findings of lyssavirus were in 4 foxes in 2006.

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 antirabiac 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 mouses

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 2011, National programme of rabies eradication in the Slovak Republic in 2011 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 2011.

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 Community 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 Å§ 8, para 3, letter f) of the Act No. 488/2002 Coll. II.

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 KoÅ¡ice 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 carnivores 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 2011 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
Bats - wild - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	2	0		
Foxes - wild - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	187	0		
Badgers - wild - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	5	0		
Cats - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	Slovenská Republika	108	0		
Cattle (bovine animals) - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	Slovenská Republika	3	0		
Deer - wild - red deer - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	1	0		
Deer - wild - roe deer - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	3	0		
Dogs - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	Slovenská Republika	171	0		
Ferrets - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	Slovenská Republika	4	0		
Foxes - wild - Control and eradication programmes	SVFI, SVI	Selective sampling	Official sampling	animal sample		Animal	Slovenská Republika	3083	0		
Goats - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	Slovenská Republika	1	0		
Hares - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	1	0		
Lynx - wild - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	2	0		
Marten - wild - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	12	0		
Moles - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	1	0		
Muskrats - wild - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	1	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
Poultry, unspecified - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	Slovenská Republika	1	0		
Rabbits - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	Slovenská Republika	7	0		
Rats - wild - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	12	0		
Rodents - pet animal - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	Slovenská Republika	1	0		
Rodents - wild - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	12	0		
Sheep - at farm - Clinical investigations	SVFI, SVI	Suspect sampling		animal sample		Animal	Slovenská Republika	2	0		
Squirrels - wild - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	1	0		
Weasel - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	1	0		
Wild boars - wild - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample		Animal	Slovenská Republika	6	0		

	EBLV-2	Lyssavirus (unspecified virus)
Bats - wild - Monitoring		
Foxes - wild - Monitoring		
Badgers - wild - Monitoring		
Cats - Clinical investigations		
Cattle (bovine animals) - at farm - Clinical investigations		

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Deer - wild - red deer - Monitoring		
Deer - wild - roe deer - Monitoring		
Dogs - Clinical investigations		
Ferrets - Clinical investigations		
Foxes - wild - Control and eradication programmes		
Goats - at farm - Clinical investigations		
Hares - Monitoring		
Lynx - wild - Monitoring		
Marten - wild - Monitoring		
Moles - Monitoring		
Muskrats - wild - Monitoring		
Poultry, unspecified - Clinical investigations		
Rabbits - Clinical investigations		
Rats - wild - Monitoring		
Rodents - pet animal - Clinical investigations		
Rodents - wild - Monitoring		
Sheep - at farm - Clinical investigations		
Squirrels - wild - Monitoring		

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Weasel - Monitoring		
Wild boars - wild - Monitoring		

2.12 STAPHYLOCOCCUS INFECTION

2.12.1 General evaluation of the national situation

2.12.2 Staphylococcus in foodstuffs

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
Bakery products - pastry - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	5	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	10 g	21	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	10 g	2	0		
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	5	1		
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Selective sampling	Official sampling	food sample		Batch	10 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	10 g	115	19		

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
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	10 g	3	0		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	1	1		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	7	1		
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	10 g	3	0		
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	20	2		
Confectionery products and pastes - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	530	109		
Confectionery products and pastes - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	123	0		
Dairy products (excluding cheeses) - dairy products, not specified - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	10	0		
Dairy products (excluding cheeses) - dairy products, not specified - non-ready-to-eat - made from pasteurised milk - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	6	4		

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
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Fishery products, unspecified - ready-to-eat - frozen - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	4	0		
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	10 g	140	108		
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	34	0		
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Infant formula - dried - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	35	0		
Infant formula - dried - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	48	0		
Infant formula - dried - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	70	0		
Meat from pig - meat products - unspecified, ready-to-eat - at catering - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	5	0		
Meat from poultry, unspecified - meat products - unspecified, ready-to-eat - at catering - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	1	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 poultry, unspecified - meat products - unspecified, ready-to-eat - at catering - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	8	0		
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single	10 g	4	0		
Milk, cows' - raw milk - at farm - Monitoring	PHA	Objective sampling	Official sampling	food sample > milk		Single	10 g	3	0		
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	629	235		
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	100	10		
Other processed food products and prepared dishes - pasta - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	5	0		
Other processed food products and prepared dishes - pasta - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	4	0		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	137	5		
Other processed food products and prepared dishes - sandwiches - with meat - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	67	5		
Other processed food products and prepared dishes - unspecified - at catering - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	157	110		

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 - unspecified - at catering - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	62	0		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	142	2		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	75	3		
Ready-to-eat salads - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	22	8		
Ready-to-eat salads - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	2	0		
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	159	65		
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	59	22		
Spices and herbs - dried - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	5	0		
Vegetables - pre-cut - ready-to-eat - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	17	0		
Vegetables - pre-cut - ready-to-eat - at retail - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 g	20	0		

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	Staphylococc us spp., unspecified
Bakery products - pastry - at retail - domestic production - Monitoring				
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 sheep's milk - fresh - made from pasteurised milk - at retail - domestic production - Monitoring				1
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 processing plant - Surveillance				19
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 - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance				1
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance				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	Staphylococc us spp., unspecified
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance				
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance				2
Confectionery products and pastes - at retail - domestic production - Surveillance				109
Confectionery products and pastes - at retail - domestic production - Surveillance				
Dairy products (excluding cheeses) - dairy products, not specified - at retail - domestic production - Monitoring				
Dairy products (excluding cheeses) - dairy products, not specified - non-ready-to-eat - made from pasteurised milk - at retail - domestic production - Surveillance				4
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance				
Fishery products, unspecified - ready-to-eat - frozen - at retail - domestic production - Surveillance				
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at hospital or care home - Monitoring				108

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	Staphylococc us spp., unspecified
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - domestic production - Monitoring				
Foodstuffs intended for special nutritional uses - ready-to-eat - at retail - domestic production - Surveillance				
Infant formula - dried - at retail - domestic production - Monitoring				
Infant formula - dried - at retail - domestic production - Monitoring				
Infant formula - dried - at retail - domestic production - Surveillance				
Meat from pig - meat products - unspecified, ready- to-eat - at catering - domestic production - Surveillance				
Meat from poultry, unspecified - meat products - unspecified, ready-to-eat - at catering - domestic production - Surveillance				
Meat from poultry, unspecified - meat products - unspecified, ready-to-eat - at catering - domestic production - Surveillance				
Meat, mixed meat - meat products - cooked, ready- to-eat - at retail - domestic production - Surveillance				
Milk, cows' - raw milk - at farm - 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	Staphylococc us spp., unspecified
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Monitoring				235
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Monitoring				10
Other processed food products and prepared dishes - pasta - at retail - domestic production - Monitoring				
Other processed food products and prepared dishes - pasta - at retail - domestic production - Monitoring				
Other processed food products and prepared dishes - sandwiches - with meat - at retail - domestic production - Monitoring				5
Other processed food products and prepared dishes - sandwiches - with meat - at retail - domestic production - Monitoring				5
Other processed food products and prepared dishes - unspecified - at catering - domestic production - Monitoring				110
Other processed food products and prepared dishes - unspecified - at catering - domestic production - Monitoring				
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring				2

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	Staphylococc us spp., unspecified
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Monitoring				3
Ready-to-eat salads - at retail - domestic production - Monitoring				8
Ready-to-eat salads - at retail - domestic production - Monitoring				
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring				65
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Monitoring				22
Spices and herbs - dried - at retail - domestic production - Monitoring				
Vegetables - pre-cut - ready-to-eat - at retail - Monitoring				
Vegetables - pre-cut - ready-to-eat - at retail - Monitoring				

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 2011, samples were taken:

- within the framework of „Plan of veterinary prevention and protection of state territory in 2011“ 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 2011“ 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

Out of 3806 samples of blood were 99 samples serologically positive for Q-fever.

Table Coxiella burnetii (Q fever) in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Analytical Method	Sampling unit	Units tested	Total units positive for Coxiella (Q-fever)	C. burnetii	No of clinically affected herds
Cattle (bovine animals) - at farm - Monitoring	SVFI, SVI	Suspect sampling		animal sample > blood			Animal	2778	95	95	
Goats - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood			Animal	2	0		
Cattle (bovine animals) - at farm - Monitoring	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > blood			Animal	36	0		
Cattle (bovine animals) - at farm - Monitoring	SVFI, SVI	Suspect sampling	Official sampling	animal sample > blood			Animal	983	4	4	
Goats - at farm - Monitoring	SVFI, SVI	Suspect sampling	Industry sampling	animal sample > blood			Animal	7	0		

2.14 ANISAKIOSIS

2.14.1 General evaluation of the national situation

2.14.2 Anisakis in foodstuffs

Table Anisakis in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Anisakis
Fish - at retail - imported - Monitoring	SVFI	Objective sampling	Official sampling	food sample		Batch	200 g	23	0

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

3.1.2 Antimicrobial resistance in Escherichia coli, non-pathogenic

Table Antimicrobial susceptibility testing of E. coli in Cattle (bovine animals)

Escherichia coli, non-pathogenic	E.coli, non-pathogenic, unspecified	
	Isolates out of a monitoring program (yes/no)	
Number of isolates available in the laboratory	yes	
	96	
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	53	3
Aminoglycosides - Kanamycin	27	5
Aminoglycosides - Neomycin	1	1
Aminoglycosides - Streptomycin	32	17
Amphenicols - Chloramphenicol	28	5
Cephalosporins - 3rd generation cephalosporins	53	2
Fluoroquinolones - Enrofloxacin	80	17
Penicillins - Ampicillin	91	54
Tetracyclines - Tetracycline	96	51
Trimethoprim + Sulfonamides	81	27

Table Antimicrobial susceptibility testing of *E. coli* in Pigs

Escherichia coli, non-pathogenic	E.coli, non-pathogenic, unspecified	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
Antimicrobials:		
	N	n
Aminoglycosides - Gentamicin	4	0
Aminoglycosides - Kanamycin	4	0
Aminoglycosides - Neomycin	11	6
Aminoglycosides - Streptomycin	4	4
Amphenicols - Chloramphenicol	2	1
Cephalosporins - 3rd generation cephalosporins	24	2
Fluoroquinolones - Enrofloxacin	18	5
Penicillins - Ampicillin	15	12
Tetracyclines - Tetracycline	27	25
Trimethoprim + Sulfonamides	28	9

Table Antimicrobial susceptibility testing of *E. coli* in *Gallus gallus* (fowl)

Escherichia coli, non-pathogenic	E.coli, non-pathogenic, unspecified
	Isolates out of a monitoring program (yes/no)
	yes
Number of isolates available in the laboratory	16
Antimicrobials:	N n
Aminoglycosides - Gentamicin	16 0
Aminoglycosides - Kanamycin	15 0
Aminoglycosides - Streptomycin	16 5
Fluoroquinolones - Enrofloxacin	14 11
Penicillins - Ampicillin	15 8
Tetracyclines - Tetracycline	16 9
Trimethoprim + Sulfonamides	16 5

Table Antimicrobial susceptibility testing of *E. coli* in Turkeys

Escherichia coli, non-pathogenic	E.coli, non-pathogenic, unspecified	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
Antimicrobials:		
	N	n
Aminoglycosides - Gentamicin	9	0
Aminoglycosides - Kanamycin	7	1
Aminoglycosides - Streptomycin	9	4
Amphenicols - Chloramphenicol	1	0
Fluoroquinolones - Enrofloxacin	9	6
Penicillins - Ampicillin	9	5
Tetracyclines - Tetracycline	9	4
Trimethoprim + Sulfonamides	9	4

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

Test Method Used	Standard methods used for testing
Disc diffusion	EUCL-AR

			Concentration (microg/ml)	Zone diameter (mm)	
			Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	12	
	Streptomycin	EFSA	16	11	
Amphenicols	Chloramphenicol	EFSA	16	12	
	Florfenicol				14
Cephalosporins	3rd generation cephalosporins				17
	Cefotaxime	EFSA	0.25	14	
Fluoroquinolones	Ciprofloxacin	EFSA	0.03	15	
Penicillins	Ampicillin	EFSA	8		
Quinolones	Nalidixic acid	EFSA	16	13	
Sulfonamides	Sulfonamides	EFSA	256	12	
Tetracyclines	Tetracycline	EFSA	8	14	
Trimethoprim	Trimethoprim	EFSA	2		
Trimethoprim + Sulfonamides	Trimethoprim + Sulfonamides				10

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

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

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

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 ENTEROBACTER SAKAZAKII

4.1.1 General evaluation of the national situation

4.1.2 Cronobacter in foodstuffs

A. Enterobacter sakazakii in foodstuffs

Monitoring system

Sampling strategy

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.

Table Enterobacter sakazakii in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Cronobacter	Cronobacter spp, unspecified
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		5	0	
Infant formula - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single		112	1	1
Infant formula - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single		140	0	
Infant formula - dried - at retail - Surveillance	PHA	Objective sampling	Official sampling	food sample		Single		38	0	
Infant formula - dried - intended for infants below 6 months - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single		30	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

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

In 2011, 32 samples were investigated without finding over limit.

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		Batch	10 g	17	0	17	0
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		Batch	10 g	8	0	8	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	1	0	1	0
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at retail - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	4	0	4	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - imported - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Batch	10 g	2	0	2	0

	>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	0	0

Table Histamine in food

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

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

4.3.2 Staphylococcal enterotoxins in foodstuffs

A. Staphylococcal enterotoxins in foodstuffs

Monitoring system

Sampling strategy

All obtained data originate from the State Veterinary and Food Institutes, the State Veterinary Institute and Public Health Authorities in Slovakia. The statistical overview was elaborated by the National reference laboratory for Coagulase positive Staphylococci, including *Staphylococcus aureus* in Dolny Kubin.

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.

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 work out a plan taking of samples

Type of specimen taken

according Commission Decision 2075/2005, cheeses

Definition of positive finding

demonstration of presence of enterotoxin

Diagnostic/analytical methods used

ELISA

Preventive measures in place

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, competent District Veterinary and Food Administration report positive finding to State Veterinary and Food Administration of the Slovak Republic and all District Veterinary and Food Administrations.

Results of the investigation

In 2011, 226 samples of foodstuffs were investigated for staphylococcal enterotoxins with positive results in 16 samples. The most positive samples were detected in confectionery and other processed food and dishes.

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	17	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	17	0
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance	SVFI	Objective sampling	Official sampling	food sample		Single	25 g	1	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - 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 retail - domestic production - Monitoring	PHA		Official sampling	food sample		Single	10 g	1	1
Cheeses, made from mixed milk from cows, sheep and/or goats - 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
Confectionery products and pastes - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	9	6
Dairy products (excluding cheeses) - dairy products, not specified - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	0
Fishery products, unspecified - ready-to-eat - chilled - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Batch	25 g	1	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
Foodstuffs intended for special nutritional uses - at hospital or care home - Monitoring	PHA					Single	10 ml	3	1
Foodstuffs intended for special nutritional uses - at hospital or care home - Monitoring	PHA					Single	25 ml	155	1
Meat from pig - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Single	25 g	1	0
Meat from poultry, unspecified - fresh - frozen - at retail - domestic production - Surveillance	SVFI	Suspect sampling	Official sampling	food sample		Single	25 g	1	0
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	1	1
Other processed food products and prepared dishes - sandwiches - with meat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Single	10 g	2	2
Other processed food products and prepared dishes - sandwiches - with meat - at catering - Monitoring	PHA	Objective sampling	Official sampling	food sample		Batch	10 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		Batch	10 g	5	2
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	2	2

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 on the Public Health Authorities on the regional level to the department of Epidemiology. Regional epidemiologist provide investigation, organise antiepidemic measure including investigation of foods which are 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 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 2011 there were recorded 584 outbreaks with 2349 cases. From 584 outbreaks, there were 5 verified outbreaks with strong evidence – 0,9% (total cases 123).

From all cases in outbreaks:

salmonellosis – 47,9% cases,
unknown causative agent – 25,4% cases,
campylobacteriosis – 19,7% cases,
other agents – 1,1% cases, norovirus – 3,1% cases,
viral hepatitis A – 0,6% cases
staphylococcal enterotoxin – 0,2% cases.

From all outbreaks:

salmonellosis – 54,3%,
campylobacteriosis – 30%,
unknown causative agent – 9,3%,
other causative agent – 0,5%,
staphylococcal enterotoxin – 0,2%
viral hepatitis A – 0,2%.

Outbreaks of salmonellosis: Trend is increased, the number of cases is stabilised, (1126 cases in 2011 vs. 1107 cases in 2010). There were reported 292 small outbreaks (1 - 5 cases/one outbreak) included family outbreaks, when were affected 823 persons and 25 general outbreaks (6 – 39/one outbreak), when were affected 303 persons together.

Outbreaks of campylobacteriosis: In 2011 there were recorded 193 outbreaks twice more than in 2010, when were affected 463 persons. There has been an approximately 50 percent increase in the number of cases. There were reported 191 small mostly family outbreaks, when were affected 433 persons a 2 general outbreaks (30 cases). Trend is increased.

Outbreak with unknown agent: 54 outbreaks were reported, when were affected 596 persons. Trend is decreased in the number of outbreaks and cases, too (54/596 in 2011 vs. 106/1174 in 2010).

Staphylococcus enterotoxin: 1 small outbreak, 9 affected persons within this outbreak were recorded.

Food-borne viruses: There was reported 1 outbreak of viral hepatitis A in year 2011 – 15 cases. Drinking water from the private well was considered suspected source.

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.

Food-borne outbreaks caused by *Campylobacter* have increased trend. The most risky are foods from the chicken, turkey and non-pasteurised cow milk, sheep milk and 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 584 outbreaks there were reported 2349 cases, from which 445 cases were hospitalised (18,9%). In general, the number of outbreaks increased about 20%, despite the number of cases decreased about 11,7%.

Descriptions of single outbreaks of special interest

Outbreaks of special interest were not reported during year 2011.

Control measures or other actions taken to improve the situation

- control of measures aimed at elimination of imperfections

Suggestions to the community for the actions to be taken

Regarding the salmonellosis and campylobacteriosis outbreaks especially in households, we suggest to increase the healthy awareness 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	19	45	11	0	1	20
Salmonella - S. Enteritidis	227	925	196	0	4	231
Salmonella - Other serovars	16	33	4	0	0	16
Campylobacter	193	463	59	0	0	193
Listeria - Listeria monocytogenes	0	0	0	0	0	0
Listeria - Other Listeria	0	0	0	0	0	0
Yersinia	6	12	0	0	0	6
Escherichia coli, pathogenic - Verotoxigenic E. coli (VTEC)	0	0	0	0	0	0
Bacillus - B. cereus	0	0	0	0	0	0
Bacillus - Other Bacillus	0	0	0	0	0	0
Staphylococcal enterotoxins	1	9	0	0	0	1
Clostridium - Cl. botulinum	0	0	0	0	0	0
Clostridium - Cl. perfringens	0	0	0	0	0	0

Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks
Clostridium - Other Clostridia	3	15	11	0	0
Other Bacterial agents - Brucella	0	0	0	0	0
Other Bacterial agents - Shigella	0	0	0	0	0
Other Bacterial agents - Other Bacterial agents	6	26	10	0	0
Parasites - Trichinella	0	0	0	0	0
Parasites - Giardia	0	0	0	0	0
Parasites - Cryptosporidium	0	0	0	0	0
Parasites - Anisakis	0	0	0	0	0
Parasites - Other Parasites	1	2	2	0	0
Viruses - Norovirus	1	73	6	0	0
Viruses - Hepatitis viruses	1	15	15	0	0
Viruses - Other Viruses	1	12	1	0	0
Other agents - Histamine	0	0	0	0	0
Other agents - Marine biotoxins	0	0	0	0	0
Other agents - Other Agents	0	0	0	0	0

Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks
Unknown agent	54	596	109	0	0
					Total number of outbreaks
					54

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	39
Number of hospitalisations	23
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	Residential institution (nursing home, prison, boarding school)
Place of origin of problem	Residential institution (nursing home, prison, boarding school)
Origin of food vehicle	Domestic market
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	

S. Typhimurium

Value

FBO Code	A02.0
Number of outbreaks	1
Number of human cases	33
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Pig meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Restaurant/Café/Pub/Bar/Hotel/Catering service
Origin of food vehicle	Domestic market
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	33
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Pig meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Restaurant/Café/Pub/Bar/Hotel/Catering service
Origin of food vehicle	Domestic market
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	14
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Household / domestic kitchen
Origin of food vehicle	Domestic market
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	4
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of 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 market
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	