European Food Safety Authority

ZOONOSES MONITORING

SLOVAKIA

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

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

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

IN 2010

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Slovakia

Reporting Year:

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 2010 .

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.

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* 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 2010

Table Susceptible animal populations

* Only if different than current reporting year

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Cattle (bovine animals)	dairy cows and heifers			31592					
	calves (under 1 year)			1293					
	- in total			54184		478442		22485	
Gallus gallus (fowl)	parent breeding flocks for egg production line	33							
	broilers	544	2008	43213309					
	laying hens	158		708773					
	breeding flocks for meat production line - in total	72							
	- in total			43922082					
Goats	- in total			133		9305		1928	
Pigs	breeding animals			12868					
	fattening pigs			784962					
	- in total			797830		565927		7339	
Sheep	animals under 1 year (lambs)			80293					

Table Susceptible animal populations

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Sheep	- in total			6116		408299		6602	
Solipeds, domestic	horses - in total			4				1632	
Turkeys	breeding flocks, unspecified - in total	22							
	meat production flocks	25							
	- in total	47		18552					

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

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

Foodsuffs

In 2010 there were investigated 10774 samples of foodstuffs with positive findings in 26 samples (0,24%). The highest incidence of salmonella is recorded in poultry meat with 9 positive findings, in meat preparations intended to be eaten cooked (S. Enteritidis, S. Infantis, S. Virchow)

In red meat, salmonella was found in 3 samples in meat preparation intended to be eaten cooked from pig meat (S. Typhimurium – 2x, S. Infantis – 1x).

In milk and dairy products no positive finding was recorded.

In other food the highest incidence was recorded in herb tea (4x S. Typhimurium, 4x S. spp) and confectionery products (6x S. Enteritidis).

Concerning variety of salmonella types, serotypes detected were S. Enteritids (9x), S. Typhimurium (6x), S. Infantis (4x), S. Virchow (1x) and S. spp (4x).

Phagetyping of S. Enteritidis was performed only in 5 strains, phagetype 8 (3x), PT 13a and 1 strain was not typable.

Phagetypnig in S. Typhimurium was performed in 3 strains, phagetyp unknown.

Animals

In 2010 there were 3 focuses of salmonelosis in animals registered within Slovakia, in 3districts, resp. 2 regions. In comparison with 2009 number of focuses of salmonelosis decreased.

Geographical distribution of focuses of salmonelosis:

Sheep: 1 focus in Banska Bystrica Region/ Rimavska Sobota District

Poultry: 2 focuses: Banska Bystrica Region/Zvolen District, Trnava Region/Galanta District

Poultry – control programme

In 2010 investigation of flocks Gallus Gallus kept on according National control programme for Salmonella infections in poultry. This programme was adopted in compliance with Act 39/2007 for 2010.

National control programme in 2010 was aimed at monitoring of Salmonella Enteritidis, Salmonella Typhimurium, Salmonella Infantis, Salmonella Virchow a Salmonella Hadar In case of positive findings there had been ordered applicable measures in breeding flocks (rearing flocks of breeding poultry, adult breeding flocks). There were 4 positive flocks (0,30%) found in 1304 investigated breeding flocks (2x S. Enteritidis, 1x S. Typhimurium and 1x S. 6,9 : e,h : -.

In production flocks of laying hens 732 flocks were investigated with result 7 positive flocks (3,68%), 24x S. Enteritidis (3,27%), 3x S. Infantis (0,40%) and 1x S. Oranienburg. In broilers, 635 flocks of one-day-chicken were investigated with positive results in 34 flocks, 12 positive for S. enteritidis and 1 flock for S. Typhimurium. From 2825 investigated rearing period flocks were 133 flocks positive for salmonella. Predominant serovar was S. Enteritidis (1,38%). S. Typhimurium was isolated in 10 flocks

(0,29%).
In ducks, totally 8 flocks (breeding, meat production) were investigated with positive result of S. Typhimurium in 1 flock.
7 flocks of geese were investigated with positive finding of S. Enteritidis in 1 flock.
In turkeys there were investigated 202 flocks (breeding, meat production) with positive finding of salmonella in 13 flocks.
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. Positive findings were found in calves under one year, 9 positive samples (2,24%) from 319 samples, in adult cattle were found 6 positive samples (2,24%) from 267 samples. In pigs were investigated 385 samples with positive findings in 15 samples (3,89%) and in sheep was found in 1 holding S. Enteritidis from 83 samples investigated. Rare findings were in dogs and other animals.
Totally 24 salmonella serovars were isolated in animals. Predominant serovar was S. Enteritidis following S. Infantis, S. Typhimurium and S. Lille.

Feedingstuffs
In 2010 there were investigated 671 samples of feedingstuffs with positive finding in 13 samples (1,93%). Comparing the results in 2006 and 2007 when has been significant decline in amount of tested samples (2103 and 1406) in 2008 increased (2 679) and in 2009 (1189) and 2010 (671) decreased. Percentage of positive samples was in 2006 0,57%, in 2007 increased on 1,35%, in 2008 1,01%,in 2009 1,76% and in 2010 1,93%.
In feed of animal origin there were found 12 positive samples for salmonella (4,28%) in meat and bone meal, in frozen poultry offal, frozen meat and pet food.. Serovars isolated were S.Enteritidis, S. Typhimurium, S. Agona., S. Anatum, S. Infantis, S. Livingstone, S. London a S. (6,7:-:-).
In other feed no positive samples were found.
In compound feedingstuffs 1 sample of compound feed for pigs was positive for S. Enteritids from 265 investigated. In 2010 total 8 serovars were detected in feedingstuffs in.

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, according national eradication programms and surveys related to poultry.

2.1.2 Salmonellosis in humans

A. Salmonellosis in humans

Reporting system in place for the human cases

Physician shall report each suspect case mandatory and microbiological laboratory report each positive sample.

Case definition

in accordance with decision No 2119/98/EC-C/32002/1043- Case definition for communicable diseases listed in decision 2000/96/EC- Clinical picture compatible with salmonellosis, e.g. diarrhoea, abdominal pain, nausea, and vomiting. The organism may cause extraintestinal infections.

Diagnostic/analytical methods used

isolation of Salmonella (non-typhi, non-paratyphi) from clinical specimen

History of the disease and/or infection in the country

Salmonellosis has been reported in Slovakia since 1975, historical data do exist since this date.

Results of the investigation

To the end of the 80-ties, the most prevalent serotype of salmonella was S.typhimurium, infantis, from the 90- ties, the most prevalent serotype has been S. enteritidis.

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

Trend of salmonellosis increased to 1998, since 1998 slowly decreased. For many years, the highest age-specific incidence in children is up to 1 year of age. Eggs and egg products and poultry meet are the most relevant risk factor of transmission.

2.1.3 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 2010 there were investigated 10774 samples of foodstuffs with positive findings in 26 samples (0,24%).
The highest incidence of salmonella is recorded in poultry meat with 9 positive findings, in meat preparations intended to be eaten cooked (S. Enteritidis, S. Infantis, S. Virchow)
In red meat, salmonella was found in 3 samples in meat preparation intended to be eaten cooked from pig

meat (S. Typhimurium – 2x, S. Infantis – 1x).
In milk and dairy products no positive finding was recorded.
In other food the highest incidence was recorded in herb tea (4x S. Typhimurium, 4x S. spp) and confectionery products (6x S. Enteritidis).
Concerning variety of salmonella types, serotypes detected were S. Enteritids (9x), S. Typhimurium (6x), S. Infantis (4x), S. Virchow (1x) and S. spp (4x).
Phagetyping of S. Enteritidis was performed only in 5 strains, phagetype 8 (3x), PT 13a and 1 strain was not typable.
Phagetypnig in S. Typhimurium was performed in 3 strains, phagetyp unknown.

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Infantis	S. Virchow
Meat from broilers (Gallus gallus) - fresh - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	1	0					
Meat from broilers (Gallus gallus) - fresh - at retail - domestic production - Surveillance - official controls - selective sampling	SVFI	Batch	25 g	3	0					
Meat from broilers (Gallus gallus) - fresh - at retail - domestic production - Surveillance - official controls - suspect sampling	SVFI	Batch	25 g	3	0					
Meat from broilers (Gallus gallus) - fresh - frozen - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	2	0					
Meat from broilers (Gallus gallus) - fresh - frozen - at retail - domestic production - Surveillance - official controls - selective sampling	SVFI	Batch	25 g	1	0					
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance - official controls	SVFI	Batch	10 g, 25 g	24	3	1			2	
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	10 g, 25 g	53	5	1			3	1
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	39	0					

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Infantis	S. Virchow
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	117	0					
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	5	0					
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	18	0					
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - at processing plant - Surveillance - official controls	SVFI	Batch	10 g	5	0					
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - at processing plant - Surveillance - official controls - suspect sampling	SVFI	Batch	10 g	2	1	1				
Meat from duck - fresh - frozen - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	1	0					
Meat from turkey - fresh - at retail - domestic production - Surveillance - official controls - selective sampling	SVFI	Batch	25 g	1	0					
Meat from turkey - fresh - frozen - at retail - domestic production - Surveillance - official controls - suspect sampling	SVFI	Batch	25 g	4	0					

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Infantis	S. Virchow
Meat from turkey - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g, 25 g	2	0					
Meat from turkey - meat products - cooked, ready-to -eat - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	1	0					
Meat from turkey - meat products - cooked, ready-to -eat - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	15	0					
Meat from turkey - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	1	0					
Meat from turkey - meat products - raw but intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	6	0					
Meat from turkey - mechanically separated meat (MSM) - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	1	0					
Meat from turkey - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	1	0					

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	10	0			
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	10	0			
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	13	0			
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	6	0			
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	39	0			
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	13	0			
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	163	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	1	0			
Cheeses, made from mixed milk from cows, sheep and/or goats - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	2	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 - official controls	SVFI	Batch	25 g	26	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 retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	17	0			
Dairy products (excluding cheeses)	PHA	Single	25 g	29	0			
Dairy products (excluding cheeses) - butter - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	5	0			
Dairy products (excluding cheeses) - butter - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	14	0			
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	17	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Dairy products (excluding cheeses) - dairy products, not specified - at processing plant - Surveillance - official controls	SVFI	Batch	25 ml	1	0			
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	15	0			
Dairy products (excluding cheeses) - fermented dairy products - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	5	0			
Dairy products (excluding cheeses) - ice-cream - at processing plant - Surveillance - official controls	PHA, SVFI	Batch	25 g	1310	0			
Dairy products (excluding cheeses) - ice-cream - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	137	0			
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	22	0			
Dairy products (excluding cheeses) - milk powder and whey powder - at retail - domestic production - Surveillance - official controls	PHA,SVFI	Batch	25 g	8	0			
Dairy products (excluding cheeses) - milk powder and whey powder - at retail - imported - Surveillance - official controls	PHA	Batch	25 g	80	0			
Infant formula - dried - at retail - Surveillance - official controls	PHA	Single	25 g	423	0			
Milk, cows' - pasteurised milk - at processing plant - Surveillance - official controls	SVFI	Batch	25 ml	1	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Milk, cows' - pasteurised milk - at retail - domestic production - Surveillance - official controls	PHA	Single	25 ml	11	0			
Milk, cows' - raw - at farm - Monitoring - official sampling	SVFI	Single	25 ml	123	0			
Milk, cows' - raw - at farm - Surveillance - official controls	SVFI	Single	25 ml	10	0			
Milk, cows' - raw - at processing plant - Monitoring - official sampling	SVFI	Single	25 ml	185	0			
Milk, cows' - raw - intended for direct human consumption - at processing plant - Surveillance - official controls	SVFI	Single	25 ml	15	0			
Milk, cows' - raw - intended for direct human consumption - at retail - domestic production - Surveillance - official controls	PHA	Batch	25 g	10	0			
Milk, goats' - at retail - domestic production - Surveillance - official controls	PHA	Single	25 ml	2	0			

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Bakery products - at processing plant - Surveillance - official controls	PHA, SVFI	Batch	25 g	24	0			
Bakery products - bread - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	3	0			
Bakery products - bread - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	8	0			
Bakery products - cakes - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	3	0			
Bakery products - cakes - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	12	0			
Bakery products - pastry - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	17	0			
Bakery products - pastry - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	29	0			
Beverages, non-alcoholic - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	4	0			
Beverages, non-alcoholic - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	6	0			
Cereals and meals - at processing plant - Surveillance - official controls	PHA, SVFI	Batch	25 g	46	0			
Cocoa and cocoa preparations, coffee and tea - at packing centre - Monitoring - industry sampling	PHA	Single	25 g	374	0			
Cocoa and cocoa preparations, coffee and tea - at packing centre - Surveillance - official controls	PHA	Batch	25 g	2	2		2	

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cocoa and cocoa preparations, coffee and tea - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	6	3		2	1
Cocoa and cocoa preparations, coffee and tea - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	86	3			3
Cocoa and cocoa preparations, coffee and tea - at retail - imported - Surveillance - official controls	PHA	Single	25 g	24	0			
Confectionery products and pastes - at processing plant - Surveillance - official controls	PHA, SVFI	Batch	25 g	21	6	6		
Confectionery products and pastes - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	1767	0			
Eggs - at farm - animal sample - eggs - Monitoring - official sampling - selective sampling	PHA	Single	25 g	10	0			
Eggs - at retail - domestic production - Surveillance - official controls - suspect sampling	SVFI	Batch	25 g	2	0			
Eggs - table eggs - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	27	0			
Fishery products, unspecified - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	2	0			
Fishery products, unspecified - at retail - domestic production - Surveillance - official controls	PHA	Batch	25 g	281	0			

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Fishery products, unspecified - at retail - domestic production - Surveillance - official controls - suspect sampling	SVFI	Batch	25 g	1	0			
Fishery products, unspecified - at retail - imported - Surveillance - official controls	PHA	Batch	25 g	5	0			
Fruits and vegetables - precut - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	12	0			
Fruits and vegetables - precut - ready-to-eat - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	9	0			
Fruits and vegetables - precut - ready-to-eat - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	132	0			
Fruits and vegetables - products - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	2	0			
Fruits and vegetables - products - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	20	0			
Juice - fruit juice - unpasteurised - at retail - domestic production - Surveillance - official controls - suspect sampling	SVFI	Batch	25 ml	1	0			
Other food of non-animal origin - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	12	0			
Other food of non-animal origin - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	118	0			

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Other processed food products and prepared dishes - noodles - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	56	0			
Other processed food products and prepared dishes - noodles - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	31	0			
Other processed food products and prepared dishes - noodles - at retail - imported - Surveillance - official controls	PHA	Batch	25 g	5	0			
Other processed food products and prepared dishes - pasta - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	1	0			
Other processed food products and prepared dishes - pasta - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	3	0			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Clinical investigations	PHA	Single	25 g	8	0			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance - official controls	PHA	Batch	25 g	1383	0			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	7	0			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Surveillance - official controls	PHA	Batch	25 g	2280	0			

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Sauce and dressings - mayonnaise - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	7	0			
Soups - dehydrated - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	9	0			
Spices and herbs - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	20	0			
Spices and herbs - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	47	0			
Spices and herbs - at retail - imported - Surveillance - official controls	PHA	Batch	25 g	32	0			

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Infantis
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	12	0				
Meat from bovine animals - meat products - raw but intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	4	0				
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	3	0				
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance - official controls	SVFI	Batch	10 g	2	0				
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	26	0				
Meat from horse - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	1	0				
Meat from pig - fresh - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	1	0				
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance - official controls	SVFI	Batch	10 g	161	2		1		1

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Infantis
Meat from pig - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	103	1		1		
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	221	0				
Meat from pig - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	131	0				
Meat from pig - meat products - raw and intended to be eaten raw - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	9	0				
Meat from pig - meat products - raw and intended to be eaten raw - at retail - domestic production - Surveillance - official controls	SVFI	Batch	25 g	10	0				
Meat from pig - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance - official controls	SVFI	Batch	10 g	40	0				
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	25 g	46	0				
Meat from pig - meat products - unspecified, ready-to-eat - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	3	0				
Meat from pig - minced meat - intended to be eaten cooked - at processing plant - Surveillance - official controls	SVFI	Batch	10 g	9	0				

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Infantis
Meat from pig - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g, 25 g	4	0				
Other products of animal origin - gelatin and collagen - at packing centre - Monitoring - official sampling - objective sampling	PHA	Single	25 g	4	0				

2.1.4 Salmonella in animals

A. Salmonella spp. in Gallus Gallus - breeding flocks

Monitoring system

Sampling strategy

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

The 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 2010.
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.
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.

Methods of sampling (description of sampling techniques)

Breeding flocks: Production period

Breeding flocks: Production period

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

2. Sampling at holding:

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): 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): Production period

Bacteriological method: STN EN ISO 6579/A1:2008

Vaccination policy

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

Using of vaccines within this control programme is performed according Commission Regulation 1177/2006. Vaccination is allowed in breeding flocks in Slovak Republic using death 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 bacteriologicall wild – type strains of salmonella from vaccine strains shall not be used.

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 No. 1003/2005 implementing Regulation No 2160/2003 as regards a Community target for the reduction of the prevalence of certain salmonella serotypes in breeding flocks of

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

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

Recent actions taken to control the zoonoses

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

Measures in case of the positive findings or single cases

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

The measures must comply with the following minimum requirements:
a) no bird may leave the house concerned unless the competent authority has authorized the slaughter and safe destruction under supervision or slaughter in a slaughterhouse designated by the competent authority.
b) non-incubated eggs produced by the birds in the house in question must be safely destroyed on the spot or after appropriate marking be taken under supervision to an approved egg-processing establishment to be heat treated in accordance with the requirements of the special rule.
c) all poultry in the positive flock 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) efectiveness check of desinfection after cleaning and desinfection must be carried out by bacteriological examination of swabs from houses. Swab samples are taken by official veterinarians from the relevant District Veterinary and Food Administrations.

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.

Results of the investigation

There were 4 positive flocks (0,30%) found in 1304 investigated breeding flocks (2x S. Enteritidis, 1x S. Typhimurium and 1x S. 6,9 : e,h : - in 2010.

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 withim 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: Before slaughter at farm

3 weeks prior to slaughter

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

Broiler flocks: Before slaughter at farm

When invasive serovars are confirmed in broiler flock the relevant district veterinary and food administration starts to carry out the epizootological investigation in order to detect the source of contamination.
The measures must comply with the following minimum requirements:
1.After slaughtering of infected flocks safe disposal of manure or litter must be carried out in accordance with procedure laid down by the competent veterinary administration authority.
2.A thorough cleansing and disinfection must be carried out of the building.
3.After cleaning and disinfection must be performed the effectiveness check by taking of swabs from the superficies of the house, which are designated for bacteriological investigation to the NRL. Houses can be restocked only when results of bacteriological investigation of control swabs are negative for invasive salmonella.

Broiler flocks: At slaughter (flock based approach)

When invasive serovars are confirmed in broiler flock the relevant district veterinary and food administration starts to carry out the epizootological investigation in order to detect the source of contamination.
The measures must comply with the following minimum requirements:
1.After slaughtering of infected flocks safe disposal of manure or litter must be carried out in accordance with procedure laid down by the competent veterinary administration authority.
2.A thorough cleansing and disinfection must be carried out of the building.
3.After cleaning and disinfection must be performed the effectiveness check by taking of swabs from the superficies of the house, which are designated for bacteriological investigation to the NRL. Houses can be restocked only when results of bacteriological investigation of control swabs are negative for invasive salmonella.

Notification system in place

Owner or holder of broilers is obliged to notify the suspicion and outbreak of Salmonella infection without any delay, according to § 37 of the Act No. 39/2007 Coll. In case of breaking the law an owner or holder committed an offence according to § 48 of the Act No. 39/2007 Coll. and administrative infringement according to the § 50.
The state veterinary laboratories in the Slovak Republic notify the results of all examinations of broiler flocks to the relevant district veterinary and food administrations, owners and private veterinarians. Where as a result of monitoring carried out the presence of Salmonella enteritidis, Salmonella typhimurium is detected in a broiler flock, the person responsible for the laboratory carrying out the examination, the person carrying out the examination or the owner of the flock notify the results to the relevant district veterinary and food administration.
The District Veterinary and Food Administrations notify results in the annual report to the State Veterinary and Food Administration of the Slovak Republic (they send the notification for information to the Regional Veterinary and Food Administration).

Results of the investigation

In broilers, in 2010, 635 flocks of one-day-chicken were investigated with positive results in 34 flocks, 12 positive for S. enteritidis and 1 flock for S. Typhimurium. From 2825 investigated rearing period flocks were 133 flocks positive for salmonella. Predominant serovar was S. Enteritidis (1,38%). S. Typhimurium was isolated in 10 flocks (0,29%).

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%.
In 2009, State Veterinary and Food Administration of the Slovak Republic determined target based on the results of the baseline study as carried out pursuant to Commission Decision 2004/665/EC concerning a baseline study on the prevalence of salmonella in laying flocks of Gallus Gallus. Within this survey 10% prevalence of Salmonella spp. was detected in the Slovak Republic.
The control programme is yearly evaluated.
Frequency of sampling in rearing phase of laying hens:
• Day – old chicks: samples from the internal surfaces of the boxes in which the chicks were delivered to a holding and from carcasses of chicks found to be dead on arrival,
•Pullets two weeks before moving to laying phase – pooled faeces samples.

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. -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

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 enetritidis 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: 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

Vaccination in the framework of this programme must be realized according Arcticle 3 para 3 to Commission Regulation (EC) No 1177/2006 of 1. August 2006. Vaccination programme against Salmonella enteritidis shall be applied at least during rearing to all laying hens from 1 January 2008 to 31. December 2010.

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 Administratiion take measures in holding and without delay inform State Veterinary and Food Admionistration of the Slovak Republic.

Results of the investigation

In production flocks of laying hens 732 flocks were investigated in 2010 with result 7 positive flocks (3,68%), 24x S. Enteritidis (3,27%), 3x S. Infantis (0,40%) and 1x S. Oranienburg.

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

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

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

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

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

In turkeys there were investigated 202 flocks (breeding, meat production) with positive finding of salmonella in 13 flocks.

G. Salmonella spp. in animal

Monitoring system

Sampling strategy

In animals, samples were taken in case of ill or dead animals, according national eradication programms 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

In 2010 there were 3 focuses of salmonelosis in animals registered within Slovakia, in 3districts, resp. 2 regions. In comparison with 2009 number of focuses of salmonelosis decreased.

Geographical distribution of focuses of salmonelosis:
Sheep: 1 focus in Banska Bystrica Region/ Rimavska Sobota District
Poultry: 2 focuses: Banska Bystrica Region/Zvolen District, Trnava Region/Galanta District

Poultry – control programme
In 2010 investigation of flocks Gallus Gallus kept on according National control programme for Salmonella infections in poultry. This programme was adopted in compliance with Act 39/2007 for 2010.
National control programme in 2010 was aimed at monitoring of Salmonella Enteritidis, Salmonella Typhimurium, Salmonella Infantis, Salmonella Virchow a Salmonella Hadar In case of positive findings there had been ordered applicable measures in breeding flocks (rearing flocks of breeding poultry, adult breeding flocks). There were 4 positive flocks (0,30%) found in 1304 investigated breeding flocks (2x S. Enteritidis, 1x S. Typhimurium and 1x S. 6,9 : e,h : -.
In production flocks of laying hens 732 flocks were investigated with result 7 positive flocks (3,68%), 24x S. Enteritidis (3,27%), 3x S. Infantis (0,40%) and 1x S. Oranienburg. In broilers, 635 flocks of one-day-chicken were investigated with positive results in 34 flocks, 12 positive for S. enteritidis and 1 flock for S. Typhimurium. From 2825 investigated rearing period flocks were 133 flocks positive for salmonella. Predominant serovar was S. Enteritidis (1,38%). S. Typhimurium was isolated in 10 flocks (0,29%).
In ducks, totally 8 flocks (breeding, meat production) were investigated with positive result of S. Typhimurium in 1 flock.
7 flocks of geese were investigated with positive finding of S. Enteritidis in 1 flock.
In turkeys there were investigated 202 flocks (breeding, meat production) with positive finding of

salmonella in 13 flocks.
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. Positive findings were found in calves under one year, 9 positive samples (2,24%) from 319 samples, in adult cattle were found 6 positive samples (2,24%) from 267 samples. In pigs were investigated 385 samples with positive findings in 15 samples (3,89%) and in sheep was found in 1 holding S. Enteritidis from 83 samples investigated. Rare findings were in dogs and other animals.
Totally 24 salmonella serovars were isolated in animals. Predominant serovar was S. Enteritidis following S. Infantis, S. Typhimurium and S. Lille.

Table Salmonella in breeding flocks of Gallus gallus

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-
Gallus gallus (fowl) - breeding flocks, unspecified - adult - at farm - animal sample - Control and eradication programmes - official and industry sampling (parent breeding flocks for broiler production line and parent breeding flocks for egg production line are counted)	126	DVFA	Flock	126	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - animal sample - eggs - Control and eradication programmes - official sampling	72	SVI, SVFI	Flock	3	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - animal sample - faeces - Control and eradication programmes - industry sampling	72	SVI, SVFI	Flock	24	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling	72	SVI, SVFI	Flock	143	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling - suspect sampling	72	SVI, SVFI	Flock	1	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - animal sample - Control and eradication programmes - industry sampling	44	SVI, SVFI	Flock	556	0						

Table Salmonella in breeding flocks of Gallus gallus

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - animal sample - Control and eradication programmes - official sampling	44	SVI, SVFI	Flock	69	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - animal sample - eggs - Control and eradication programmes - industry sampling	44	SVI, SVFI	Flock	147	1	1					
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - animal sample - eggs - Control and eradication programmes - official sampling	44	SVI, SVFI	Flock	11	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling	44	SVI, SVFI	Flock	7	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - industry sampling	44	SVI, SVFI	Flock	84	1				1		
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - at farm - animal sample - eggs - Control and eradication programmes - official sampling	33	SVI, SVFI	Flock	12	0						
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling	33	SVI, SVFI	Flock	25	0						

Table Salmonella in breeding flocks of Gallus gallus

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - animal sample - blood - Control and eradication programmes - industry sampling	5	SVI, SVFI	Flock	3	1	1					
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - animal sample - eggs - Control and eradication programmes - industry sampling	5	SVI, SVFI	Flock	108	0						
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - animal sample - eggs - Control and eradication programmes - official sampling	5	SVI, SVFI	Flock	24	0						
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling	5	SVI, SVFI	Flock	2	0						
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - industry sampling	5	SVI, SVFI	Flock	9	1						
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - official sampling - suspect sampling	5	SVI, SVFI	Flock	1	0						
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult - at farm - animal sample - faeces - Control and eradication programmes - industry sampling [1)]		SVI, SVFI	Flock	3	0						

Table Salmonella in breeding flocks of Gallus gallus

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling [2)]		SVI, SVFI	Flock	2	0						
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks - at farm - animal sample - Control and eradication programmes - industry sampling [3)]		SVI, SVFI	Flock	30	0						
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks - at farm - animal sample - Control and eradication programmes - official sampling [4)]		SVI, SVFI	Flock	1	0						
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks - at farm - animal sample - eggs - Control and eradication programmes - industry sampling [5)]		SVI, SVFI	Flock	39	0						

	Salmonella spp., unspecified	S. 6,8:e,h:-
Gallus gallus (fowl) - breeding flocks, unspecified - adult - at farm - animal sample - Control and eradication programmes - official and industry sampling (parent breeding flocks for broiler production line and parent breeding flocks for egg production line are counted)		

Table Salmonella in breeding flocks of Gallus gallus

	Salmonella spp., unspecified	S. 6,8:e,h:-
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - animal sample - eggs - Control and eradication programmes - official sampling		
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - animal sample - faeces - Control and eradication programmes - industry sampling		
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling		
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling - suspect sampling		
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - animal sample - Control and eradication programmes - industry sampling		
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - animal sample - Control and eradication programmes - official sampling		
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - animal sample - eggs - Control and eradication programmes - industry sampling		

Table Salmonella in breeding flocks of Gallus gallus

	Salmonella spp., unspecified	S. 6,8:e,h:-
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - animal sample - eggs - Control and eradication programmes - official sampling		
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling		
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - industry sampling		
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - at farm - animal sample - eggs - Control and eradication programmes - official sampling		
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling		
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - animal sample - blood - Control and eradication programmes - industry sampling		
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - animal sample - eggs - Control and eradication programmes - industry sampling		

Table Salmonella in breeding flocks of Gallus gallus

	Salmonella spp., unspecified	S. 6,8:e,h:-
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - animal sample - eggs - Control and eradication programmes - official sampling		
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling		
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - industry sampling		1
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - official sampling - suspect sampling		
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult - at farm - animal sample - faeces - Control and eradication programmes - industry sampling [1)]		
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling [2)]		
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks - at farm - animal sample - Control and eradication programmes - industry sampling [3)]		

Table Salmonella in breeding flocks of Gallus gallus

	Salmonella spp., unspecified	S. 6,8:e,h:-
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks - at farm - animal sample - Control and eradication programmes - official sampling [4)]		
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks - at farm - animal sample - eggs - Control and eradication programmes - industry sampling [5)]		

Comments:

[1)] number of existing flocks not available

[2)] number of existing flocks not available

[3)] number of existing flocks not available

[4)] number of existing flocks not available

[5)] number of existing flocks not available

Table Salmonella in other birds

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney
Budgerigars - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	5	0				
Canary - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	2	1		1		
Ostriches - at farm - animal sample - organ/tissue - Monitoring	SVI, SVFI	Flock	7	0				
Other animals - exotic pet animals - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	30	0				
Other animals - exotic pet animals - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	12	0				
Parrots - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	17	0				
Parrots - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	5	0				
Pheasants - meat production flocks - at farm - animal sample - faeces - Monitoring	SVI, SVFI	Flock	17	0				
Pheasants - meat production flocks - at farm - animal sample - organ/tissue - Monitoring	SVI, SVFI	Flock	7	1				1
Pheasants - parent flocks - at farm - animal sample - eggs - Monitoring	SVI, SVFI	Flock	5	0				
Pigeons - at farm - animal sample - faeces - Monitoring	SVI, SVFI	Flock	29	2	1	1		
Pigeons - at farm - animal sample - organ/tissue - Monitoring	SVI, SVFI	Flock	36	2		2		

Table Salmonella in other birds

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney
Quails - at farm - animal sample - organ/tissue - Monitoring	SVI, SVFI	Flock	1	0				

Table Salmonella in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Brandenburg	S. Choleraesuis	S. Derby
Cats - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	40	3	2	1					
Cats - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	2	0							
Cattle (bovine animals) - adult cattle over 2 years - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	72	4		4					
Cattle (bovine animals) - adult cattle over 2 years - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	144	2							
Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - Monitoring - official sampling	SVI, SVFI	Animal	61	0							
Cattle (bovine animals) - calves (under 1 year) - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	116	1		1					
Cattle (bovine animals) - calves (under 1 year) - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	203	8	4	3					
Deer - at slaughterhouse - animal sample - Monitoring - official sampling	SVI, SVFI	Animal	2	0							
Dogs - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	158	8	1	1	1				
Dogs - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	61	0							

Table Salmonella in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Brandenburg	S. Choleraesuis	S. Derby
Fur animals - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	3	0							
Goats - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	5	0							
Other animals - Clinical investigations	SVI, SVFI	Animal	10	0							
Pigs - fattening pigs - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	35	5							1
Pigs - fattening pigs - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	252	7		3				3	
Pigs - fattening pigs - at slaughterhouse - animal sample - Monitoring - official sampling	SVI, SVFI	Animal	98	3	1	1			1		
Rabbits - Clinical investigations	SVI, SVFI	Animal	5	0							
Reptiles - Clinical investigations [1)]	SVI, SVFI	Animal	2	2							
Sheep - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	2	0							
Sheep - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	81	1	1						
Solipeds, domestic - horses - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	1	0							
Solipeds, domestic - horses - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	8	0							
Turtles - Clinical investigations [2)]	SVI, SVFI	Animal	6	4							
Wild animals - from hunting	SVI, SVFI	Animal	4	0							

Table Salmonella in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Brandenburg	S. Choleraesuis	S. Derby
Wild boars - at slaughterhouse - animal sample - Monitoring - official sampling	SVI, SVFI	Animal	2	0							
Zoo animals, all - Clinical investigations	SVI, SVFI	Animal	9	0							

	S. Dublin	S. Hvittingfoss	S. Infantis	S. Montevideo	S. Muenchen	S. Paratyphi B	S. Ploufragan	S. Stanley
Cats - at farm - animal sample - faeces - Clinical investigations								
Cats - at farm - animal sample - organ/tissue - Clinical investigations								
Cattle (bovine animals) - adult cattle over 2 years - at farm - animal sample - faeces - Clinical investigations								
Cattle (bovine animals) - adult cattle over 2 years - at farm - animal sample - organ/tissue - Clinical investigations				2				
Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - Monitoring - official sampling								
Cattle (bovine animals) - calves (under 1 year) - at farm - animal sample - faeces - Clinical investigations								
Cattle (bovine animals) - calves (under 1 year) - at farm - animal sample - organ/tissue - Clinical investigations	1							

Table Salmonella in other animals

	S. Dublin	S. Hvittingfoss	S. Infantis	S. Montevideo	S. Muenchen	S. Paratyphi B	S. Ploufragan	S. Stanley
Deer - at slaughterhouse - animal sample - Monitoring - official sampling								
Dogs - at farm - animal sample - faeces - Clinical investigations			5					
Dogs - at farm - animal sample - organ/tissue - Clinical investigations								
Fur animals - at farm - animal sample - organ/tissue - Clinical investigations								
Goats - at farm - animal sample - organ/tissue - Clinical investigations								
Other animals - Clinical investigations								
Pigs - fattening pigs - at farm - animal sample - faeces - Clinical investigations								4
Pigs - fattening pigs - at farm - animal sample - organ/tissue - Clinical investigations			1					
Pigs - fattening pigs - at slaughterhouse - animal sample - Monitoring - official sampling								
Rabbits - Clinical investigations								
Reptiles - Clinical investigations [1)]							2	
Sheep - at farm - animal sample - faeces - Clinical investigations								
Sheep - at farm - animal sample - organ/tissue - Clinical investigations								

Table Salmonella in other animals

	S. Dublin	S. Hvittingfoss	S. Infantis	S. Montevideo	S. Muenchen	S. Paratyphi B	S. Ploufragan	S. Stanley
Solipeds, domestic - horses - at farm - animal sample - faeces - Clinical investigations								
Solipeds, domestic - horses - at farm - animal sample - organ/tissue - Clinical investigations								
Turtles - Clinical investigations [2)]		1		1	1	1		
Wild animals - from hunting								
Wild boars - at slaughterhouse - animal sample - Monitoring - official sampling								
Zoo animals, all - Clinical investigations								

Comments:

[1)] human disease

[2)] human disease

Table Salmonella in other poultry

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 6,7:-:1,5	S. Infantis
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling	158	DVFA	Flock	158	1	1					
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling [1]		SVFI	Flock	2801	45	36	9				
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes - official and industry sampling	22	DVFA	Flock	21	0						
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling	25	DVFA	Flock	24	0						
Ducks - meat production flocks - at farm - animal sample - faeces - Control and eradication programmes - industry sampling [2]		SVI, SVFI	Flock	4	0						
Ducks - meat production flocks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling [3]		SVI, SVFI	Flock	4	1		1				
Gallus gallus (fowl) - broilers - day-old chicks - at farm - animal sample - Control and eradication programmes - industry sampling [4]		SVI, SVFI	Flock	423	30	8	1				1
Gallus gallus (fowl) - broilers - day-old chicks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling [5]		SVI, SVFI	Flock	212	4	4					
Gallus gallus (fowl) - broilers - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - industry sampling [6]		SVI, SVFI	Flock	2697	102	36	9			12	35

Table Salmonella in other poultry

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 6,7:-:1,5	S. Infantis
Gallus gallus (fowl) - broilers - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - official sampling [7)]		SVI, SVFI	Flock	104	30						27
Gallus gallus (fowl) - broilers - during rearing period - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling [8)]		SVI, SVFI	Flock	12	1						1
Gallus gallus (fowl) - broilers - during rearing period - at slaughterhouse - animal sample - carcass swabs - Control and eradication programmes - official sampling [9)]		SVI, SVFI	Flock	8	0						
Gallus gallus (fowl) - broilers - unspecified - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling [10)]		SVI, SVFI	Flock	4	0						
Gallus gallus (fowl) - laying hens - adult - at farm - animal sample - faeces - Control and eradication programmes - industry sampling	158	SVI, SVFI	Flock	349	12	12					
Gallus gallus (fowl) - laying hens - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling	158	SVI, SVFI	Flock	55	3	3					
Gallus gallus (fowl) - laying hens - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling - suspect sampling	158	SVI, SVFI	Flock	3	0						
Gallus gallus (fowl) - laying hens - adult - at farm - animal sample - organ/tissue - Control and eradication programmes - official sampling - suspect sampling	158	SVI, SVFI	Flock	2	0						

Table Salmonella in other poultry

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 6,7:-:1,5	S. Infantis
Gallus gallus (fowl) - laying hens - adult - at farm - environmental sample - Control and eradication programmes - official sampling	158	SVI, SVFI	Flock	19	1						1
Gallus gallus (fowl) - laying hens - adult - at farm - environmental sample - Control and eradication programmes - official sampling - suspect sampling [11)]	158	SVI, SVFI	Flock	10	4	3					2
Gallus gallus (fowl) - laying hens - adult - at farm - environmental sample - dust - Control and eradication programmes - official sampling	158	SVI, SVFI	Flock	64	1	1					
Gallus gallus (fowl) - laying hens - adult - at farm - environmental sample - dust - Control and eradication programmes - official sampling - suspect sampling	158	SVI, SVFI	Flock	9	0						
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - Control and eradication programmes - industry sampling	97	SVI, SVFI	Flock	13	1	1					
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - animal sample - Control and eradication programmes - industry sampling	97	SVI, SVFI	Flock	46	0						
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling	97	SVI, SVFI	Flock	73	0						
Gallus gallus (fowl) - laying hens - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - industry sampling	97	SVI, SVFI	Flock	86	5	4					

Table Salmonella in other poultry

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 6,7:-:1,5	S. Infantis
Gallus gallus (fowl) - laying hens - during rearing period - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling	97	SVI, SVFI	Flock	1	0						
Gallus gallus (fowl) - laying hens - during rearing period - at farm - environmental sample - Control and eradication programmes - official sampling	97	SVI, SVFI	Flock	1	0						
Gallus gallus (fowl) - laying hens - during rearing period - at farm - environmental sample - dust - Control and eradication programmes - official sampling	97	SVI, SVFI	Flock	1	0						
Gallus gallus (fowl) - unspecified - at farm - environmental sample - Control and eradication programmes - industry sampling [12)]		SVI, SVFI	Flock	10	0						
Gallus gallus (fowl) - unspecified - at farm - environmental sample - Control and eradication programmes - official sampling [13)]		SVI, SVFI	Flock	23	0						
Geese - meat production flocks - at farm - animal sample - faeces - Control and eradication programmes - industry sampling [14)]		SVI, SVFI	Flock	2	0						
Geese - meat production flocks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling [15)]		SVI, SVFI	Flock	5	1	1					
Turkeys - breeding flocks, unspecified - at farm - animal sample - Control and eradication programmes - industry sampling	22	SVI, SVFI	Flock	11	0						
Turkeys - breeding flocks, unspecified - at farm - animal sample - faeces - Control and eradication programmes - industry sampling	22	SVI, SVFI	Flock	119	0						

Table Salmonella in other poultry

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 6,7:-:1,5	S. Infantis
Turkeys - breeding flocks, unspecified - at farm - animal sample - faeces - Control and eradication programmes - official sampling	22	SVI, SVFI	Flock	27	8		1				
Turkeys - breeding flocks, unspecified - at farm - animal sample - faeces - Control and eradication programmes - official sampling - suspect sampling	22	SVI, SVFI	Flock	1	0						
Turkeys - breeding flocks, unspecified - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling	22	SVI, SVFI	Flock	8	0						
Turkeys - fattening flocks - at farm - animal sample - faeces - Control and eradication programmes - industry sampling	25	SVI, SVFI	Flock	23	2						
Turkeys - fattening flocks - at farm - animal sample - faeces - Control and eradication programmes - official sampling	25	SVI, SVFI	Flock	2	0						
Turkeys - fattening flocks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling	25	SVI, SVFI	Flock	11	3						

	S. Kentucky	S. Lille	S. Montevideo	S. Newport	S. Oranienburg	S. Saintpaul	S. Senftenberg	S. Tennessee
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling								

Table Salmonella in other poultry

	S. Kentucky	S. Lille	S. Montevideo	S. Newport	S. Oranienburg	S. Saintpaul	S. Senftenberg	S. Tennessee
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling [1)]								
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes - official and industry sampling								
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling								
Ducks - meat production flocks - at farm - animal sample - faeces - Control and eradication programmes - industry sampling [2)]								
Ducks - meat production flocks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling [3)]								
Gallus gallus (fowl) - broilers - day-old chicks - at farm - animal sample - Control and eradication programmes - industry sampling [4)]		21						
Gallus gallus (fowl) - broilers - day-old chicks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling [5)]								
Gallus gallus (fowl) - broilers - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - industry sampling [6)]	1	5						5
Gallus gallus (fowl) - broilers - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - official sampling [7)]	1		2					

Table Salmonella in other poultry

	S. Kentucky	S. Lille	S. Montevideo	S. Newport	S. Oranienburg	S. Saintpaul	S. Senftenberg	S. Tennessee
Gallus gallus (fowl) - broilers - during rearing period - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling [8)]								
Gallus gallus (fowl) - broilers - during rearing period - at slaughterhouse - animal sample - carcass swabs - Control and eradication programmes - official sampling [9)]								
Gallus gallus (fowl) - broilers - unspecified - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling [10)]								
Gallus gallus (fowl) - laying hens - adult - at farm - animal sample - faeces - Control and eradication programmes - industry sampling								
Gallus gallus (fowl) - laying hens - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling								
Gallus gallus (fowl) - laying hens - adult - at farm - animal sample - faeces - Control and eradication programmes - official sampling - suspect sampling								
Gallus gallus (fowl) - laying hens - adult - at farm - animal sample - organ/tissue - Control and eradication programmes - official sampling - suspect sampling								
Gallus gallus (fowl) - laying hens - adult - at farm - environmental sample - Control and eradication programmes - official sampling								

Table Salmonella in other poultry

	S. Kentucky	S. Lille	S. Montevideo	S. Newport	S. Oranienburg	S. Saintpaul	S. Senftenberg	S. Tennessee
Gallus gallus (fowl) - laying hens - adult - at farm - environmental sample - Control and eradication programmes - official sampling - suspect sampling [11)]								
Gallus gallus (fowl) - laying hens - adult - at farm - environmental sample - dust - Control and eradication programmes - official sampling								
Gallus gallus (fowl) - laying hens - adult - at farm - environmental sample - dust - Control and eradication programmes - official sampling - suspect sampling								
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - Control and eradication programmes - industry sampling								
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - animal sample - Control and eradication programmes - industry sampling								
Gallus gallus (fowl) - laying hens - day-old chicks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling								
Gallus gallus (fowl) - laying hens - during rearing period - at farm - animal sample - faeces - Control and eradication programmes - industry sampling					1			
Gallus gallus (fowl) - laying hens - during rearing period - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling								

Table Salmonella in other poultry

	S. Kentucky	S. Lille	S. Montevideo	S. Newport	S. Oranienburg	S. Saintpaul	S. Senftenberg	S. Tennessee
Gallus gallus (fowl) - laying hens - during rearing period - at farm - environmental sample - Control and eradication programmes - official sampling								
Gallus gallus (fowl) - laying hens - during rearing period - at farm - environmental sample - dust - Control and eradication programmes - official sampling								
Gallus gallus (fowl) - unspecified - at farm - environmental sample - Control and eradication programmes - industry sampling [12)]								
Gallus gallus (fowl) - unspecified - at farm - environmental sample - Control and eradication programmes - official sampling [13)]								
Geese - meat production flocks - at farm - animal sample - faeces - Control and eradication programmes - industry sampling [14)]								
Geese - meat production flocks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling [15)]								
Turkeys - breeding flocks, unspecified - at farm - animal sample - Control and eradication programmes - industry sampling								
Turkeys - breeding flocks, unspecified - at farm - animal sample - faeces - Control and eradication programmes - industry sampling								
Turkeys - breeding flocks, unspecified - at farm - animal sample - faeces - Control and eradication programmes - official sampling						7		

Table Salmonella in other poultry

	S. Kentucky	S. Lille	S. Montevideo	S. Newport	S. Oranienburg	S. Saintpaul	S. Senftenberg	S. Tennessee
Turkeys - breeding flocks, unspecified - at farm - animal sample - faeces - Control and eradication programmes - official sampling - suspect sampling								
Turkeys - breeding flocks, unspecified - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling								
Turkeys - fattening flocks - at farm - animal sample - faeces - Control and eradication programmes - industry sampling				1		1		
Turkeys - fattening flocks - at farm - animal sample - faeces - Control and eradication programmes - official sampling								
Turkeys - fattening flocks - at farm - animal sample - organ/tissue - Control and eradication programmes - industry sampling				1		1	1	

Comments:

[1)] no data available for number of existing flocks in 2010

[2)] number of existing flocks not available

[3)] number of existing flocks not available

[4)] more than one serovar in one positive sample, number of existing flocks not available

[5)] number of existing flocks not available

[6)] more than one serovar in one positive sample, number of existing flocks not available

[7)] number of existing flocks not available

Table Salmonella in other poultry

Comments:

[8)] number of existing flocks not available

[9)] number of existing flocks not available

[10)] number of existing flocks not available

[11)] more than one serovar in one positive sample

[12)] number of existing flocks not available

[13)] number of existing flocks not available

[14)] number of existing flocks not available

[15)] number of existing flocks not available

2.1.5 Salmonella in feedingstuffs

A. Salmonella spp. in feed

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

Feedingstuffs

In 2010 there were investigated 671 samples of feedingstuffs with positive finding in 13 samples (1,93%). Comparing the results in 2006 and 2007 when has been significant decline in amount of tested samples (2103 and 1406) in 2008 increased (2 679) and in 2009 (1189) and 2010 (671) decreased. Percentage of positive samples was in 2006 0,57%, in 2007 increased on 1,35%, in 2008 1,01%,in 2009 1,76% and in 2010 1,93%.

In feed of animal origin there were found 12 positive samples for salmonella (4,28%) in meat and bone meal, in frozen poultry offal, frozen meat and pet food.. Serovars isolated were S.Enteritidis, S. Typhimurium, S. Agona., S. Anatum, S. Infantis, S. Livingstone, S. London a S. (6,7:-:-).

In other feed no positive samples were found.

In compound feedingstuffs 1 sample of compound feed for pigs was positive for S. Enteritids from 265 investigated. In 2010 total 8 serovars were detected in feedingstuffs.

Recent actions taken to control the zoonoses

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 unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Compound feedingstuffs for cattle - final product - at farm - feed sample - Surveillance - official controls	SVFI	Batch	25g	50	0			
Compound feedingstuffs for fish - at farm - feed sample - Surveillance - official controls	SVFI	Batch	25g	2	0			
Compound feedingstuffs for pigs - final product - at farm - feed sample - Surveillance - official controls	SVFI	Batch	25g	64	1	1		
Compound feedingstuffs for poultry (non specified) - final product - at farm - feed sample - Surveillance - official controls	SVFI	Single	25g	2	0			
Compound feedingstuffs for poultry - broilers - final product - at farm - feed sample - Surveillance - official controls	SVFI	Batch	25g	47	0			
Compound feedingstuffs for poultry - laying hens - final product - at farm - feed sample - Surveillance - official controls	SVFI	Batch	25g	24	0			
Compound feedingstuffs for sheep - at farm - feed sample - Surveillance - official controls	SVFI	Batch	25g	5	0			
Pet food - dog snacks (pig ears, chewing bones) - at farm - feed sample - Surveillance - official controls	SVFI	Batch	25g	62	0			
Pet food - final product - non-pelleted/meal - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	4	0			
Pet food - final product - pelleted - at feed mill - Surveillance - official controls	SVFI	Batch	25g	5	0			

Table Salmonella in compound feedingstuffs

Table Salmonella in feed material of animal origin

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. 6,7:-:-	S. Agona	S. Anatum
Feed material of land animal origin - animal fat - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	40	0						
Feed material of land animal origin - blood meal - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	4	0						
Feed material of land animal origin - dairy products - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	51	0						
Feed material of land animal origin - greaves - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	11	0						
Feed material of land animal origin - meat and bone meal - at feed mill - domestic production - Surveillance - official controls [1)]	SVFI	Batch	25g	50	5				1	2	
Feed material of land animal origin - offal - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	46	5	1	1				
Feed material of land animal origin - poultry offal meal - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	1	1						1
Feed material of land animal origin - protein meal - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	17	0						
Feed material of marine animal origin - fish meal - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	29	0						

Table Salmonella in feed material of animal origin

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. 6,7:-:-	S. Agona	S. Anatum
Feed material of marine animal origin - fish oil - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	2	0						
Feed material of marine animal origin - fish silage - at feed mill - domestic production - Surveillance - HACCP and own checks	SVFI	Batch	25g	1	0						
Pet food - final product - canned products - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	10	0						
Pet food - final product - non-pelleted/meal - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	6	1						1
Pet food - final product - pelleted - at feed mill - domestic production - Surveillance - official controls	SVFI	Batch	25g	11	0						

	S. Infantis	S. Livingstone	S. London
Feed material of land animal origin - animal fat - at feed mill - domestic production - Surveillance - official controls			
Feed material of land animal origin - blood meal - at feed mill - domestic production - Surveillance - official controls			

Table Salmonella in feed material of animal origin

	S. Infantis	S. Livingstone	S. London
Feed material of land animal origin - dairy products - at feed mill - domestic production - Surveillance - official controls			
Feed material of land animal origin - greaves - at feed mill - domestic production - Surveillance - official controls			
Feed material of land animal origin - meat and bone meal - at feed mill - domestic production - Surveillance - official controls [1)]		3	1
Feed material of land animal origin - offal - at feed mill - domestic production - Surveillance - official controls	1		2
Feed material of land animal origin - poultry offal meal - at feed mill - domestic production - Surveillance - official controls			
Feed material of land animal origin - protein meal - at feed mill - domestic production - Surveillance - official controls			
Feed material of marine animal origin - fish meal - at feed mill - domestic production - Surveillance - official controls			
Feed material of marine animal origin - fish oil - at feed mill - domestic production - Surveillance - official controls			
Feed material of marine animal origin - fish silage - at feed mill - domestic production - Surveillance - HACCP and own checks			

Table Salmonella in feed material of animal origin

	S. Infantis	S. Livingstone	S. London
Pet food - final product - canned products - at feed mill - domestic production - Surveillance - official controls			
Pet food - final product - non-pelleted/meal - at feed mill - domestic production - Surveillance - official controls			
Pet food - final product - pelleted - at feed mill - domestic production - Surveillance - official controls			

Comments:

[1)] more than one serovar in one positive sample

Table Salmonella in other feed matter

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Feed material of cereal grain origin - barley derived - at farm - feed sample - Surveillance - official controls	SVFI	Batch	25g	12	0			
Feed material of cereal grain origin - maize - at farm - feed sample - Surveillance - official controls	SVFI	Single	25g	15	0			
Feed material of cereal grain origin - maize - derived - at farm - feed sample - Surveillance - official controls	SVFI	Single	25g	1	0			
Feed material of cereal grain origin - maize - derived - at feed mill - domestic production - Surveillance - official controls	SVFI	Single	25g	8	0			
Feed material of cereal grain origin - oat derived - at farm - feed sample - Surveillance - official controls	SVFI	Batch	25g	2	0			
Feed material of cereal grain origin - other cereal grain derived - at farm - feed sample - Surveillance - official controls	SVFI	Batch	25g	8	0			
Feed material of cereal grain origin - wheat derived - at farm - feed sample - Surveillance - official controls	SVFI	Batch	25g	30	0			
Feed material of oil seed or fruit origin - rape seed derived - at feed mill - domestic production - Surveillance - official controls	SVFI	Single	25g	7	0			
Feed material of oil seed or fruit origin - soya (bean) derived - at feed mill - domestic production - Surveillance - official controls	SVFI	Single	25g	13	0			

Table Salmonella in other feed matter

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Feed material of oil seed or fruit origin - sunflower seed derived - at feed mill - domestic production - Surveillance - official controls	SVFI	Single	25g	1	0			
Other feed material - at farm - feed sample - Surveillance - official controls	SVFI	Single	25g	3	0			
Other feed material - forages and roughages - at farm - feed sample - Surveillance - official controls	SVFI	Single	25g	8	0			
Other feed material - other plants - at farm - feed sample - Surveillance - official controls	SVFI	Single	25g	2	0			
Other feed material - straws - at farm - feed sample - Surveillance - official controls	SVFI	Single	25g	3	0			
Silage - at farm - feed sample - Surveillance - official controls	SVFI	Single	25g	13	0			

2.1.6 Salmonella serovars and phagetype distribution

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

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
Sources of isolates	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Number of isolates in the laboratory			15				15		201				
Number of isolates serotyped	0	0	15	0	0	0	15	0	201	0	0	0	0
Number of isolates per serovar													
S. 4,12:i:-													
S. 6,7:-:1,5									12				
S. 6,8:e,h:-									1				
S. Brandenburg							1						
S. Bredeney													
S. Choleraesuis							3						

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
Sources of isolates	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Number of isolates in the laboratory			15				15		201				
Number of isolates serotyped	0	0	15	0	0	0	15	0	201	0	0	0	0
Number of isolates per serovar													
S. Derby							1						
S. Dublin			1										
S. Enteritidis			4				1		74				
S. Hvittingfoss													
S. Infantis							1		67				
S. Kentucky									2				
S. Lille									26				
S. Montevideo			2						2				
S. Muenchen													
S. Newport													
S. Oranienburg									1				

Table Salmonella serovars in animals

Serovar / Sources of isolates	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Number of isolates in the laboratory			15				15		201				
Number of isolates serotyped	0	0	15	0	0	0	15	0	201	0	0	0	0
Number of isolates per serovar													
S. Paratyphi B													
S. Ploufragan													
S. Saintpaul													
S. Senftenberg													
S. Stanley							4						
S. Tennessee									5				
S. Typhimurium			8				4		11				

Table Salmonella serovars in animals

Serovar / Sources of isolates	Other poultry			Other animals			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory	15					24	
Number of isolates serotyped	15	0	0	0	0	24	0
Number of isolates per serovar							
S. 4,12:i:-						1	
S. 6,7:-:1,5							
S. 6,8:e,h:-							
S. Brandenburg							
S. Bredeney						1	
S. Choleraesuis							
S. Derby							
S. Dublin							
S. Enteritidis	1					5	
S. Hvittingfoss						1	
S. Infantis						5	

Table Salmonella serovars in animals

Serovar / Sources of isolates	Other poultry			Other animals			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory	15					24	
Number of isolates serotyped	15	0	0	0	0	24	0
Number of isolates per serovar							
S. Kentucky							
S. Lille							
S. Montevideo						1	
S. Muenchen						1	
S. Newport	2						
S. Oranienburg							
S. Paratyphi B						1	
S. Ploufragan						2	
S. Saintpaul	9						
S. Senftenberg	1						
S. Stanley							

Table Salmonella serovars in animals

Serovar / Sources of isolates	Other poultry			Other animals			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory	15					24	
Number of isolates serotyped	15	0	0	0	0	24	0
Number of isolates per serovar							
S. Tennessee							
S. Typhimurium	2					6	

Table Salmonella serovars in feed

Serovar	Compound feedingstuffs for pigs		Feed material of land animal origin - meat and bone meal		Feed material of land animal origin - offal		Feed material of land animal origin - poultry offal meal	
Sources of isolates	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical
Number of isolates in the laboratory	1		7		6		1	
Number of isolates serotyped	1	0	7	0	6	0	1	0
Number of isolates per serovar								
S. 6,7:-:-			1					
S. Agona			2					
S. Anatum					1		1	
S. Enteritidis	1				1			
S. Infantis					1			
S. Livingstone			3					
S. London			1		2			
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	
Sources of isolates	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Number of isolates in the laboratory				3		9				
Number of isolates serotyped	0	0	0	3	0	9	0	0	0	0
Number of isolates per serovar										
S. Enteritidis						3				
S. Infantis				1		5				
S. Typhimurium				2						
S. Virchow						1				

Table Salmonella Enteritidis phagetypes in food

Phagetype	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Meat from other poultry species		Other products of animal origin		Other food	
Sources of isolates	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Number of isolates in the laboratory											5	
Number of isolates phagetyped	0	0	0	0	0	0	0	0	0	0	5	0
Number of isolates per phagetype												
8											3	
Not typeable											1	
PT 13a											1	

Table Salmonella Typhimurium phagetypes in food

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

2.1.7 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 reccomended by EFSA, EC and European Commitee 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

S. Enteritidis: Situation is favourable in cattle and pigs. It was observed evident increasing of isolates with resistance to NxCp in broilers. It was noted the only isolate resistant to sulfomethoxazol and trimetoprim (SuW) in laying hens analogous to previous year.
S. Typhimurium: Sporadical incidence of pentaresistant S. Typhimurium was observed in cattle and pigs, other resistant clones (A, T, AT, AST, SSuT, ASSuTW resistance) are involved too. Furthermore were noted AT resistance in broilers and AST resistance in farmed fish.
S. 4,5,12:i:– : Two strains resistant to ASSuT were isolated in pigs.
S. Infantis and S. 6,7:-:1,5: All the strains isolated in broilers and turkeys were resistant to SuTNxCp (some of them were resistant to S too). On the other hand two isolates from laying hens were fully sensitive.
S. Newport: It were noted all the isolates resistant to AT in turkeys and broilers.
S. Bredeney: Individual isolates resistant to SSuTK were observed in cattle and pheasants.
S. Derby: Situation is favourable in pigs , just sporadic T resistance was observed.
S. Ohio: The only strain resistant to SuTNxCp was isolated in pigs.
S. Choleraesuis: The only strain resistant to NxCp was isolated in pigs.
S. Kentucky: Situation is favourable in broilers, just sporadic A resistance was observed.
S. Saintpaul: The only strain resistant to NxCp was isolated in broilers.
S. Dublin, S. London, S. Bovismorbificans, S. Lille, S. Montevideo, S Oranienburg and S. Tennessee: All the strains of these serotypes isolated in animals were fully sensitive.

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

It was observed evident increasing of S. Enteritidis isolates with resistance to nalidixic acid and ciprofloxacin (NxCp) in broilers.
Once again, it was noted the only isolate of S. Enteritidis resistant to sulfomethoxazol and trimetoprim (SuW) in laying hens but in other holding.
All the strains of S. Infantis and S. 6,7:-:1,5 isolated in broilers and turkeys were resistant to SuTNxCp (some of them were resistant to S too).

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 reccomended by EFSA, EC and European Commitee on Antimicrobial Susceptibility Testing (EUCAST), when were available. For details see breakpoints and quantitative tables.

Results of the investigation

S. Enteritidis: The only strain isolated in broiler meat was fully sensitive. On the other hand the only strain isolated in poultry offal meal was resistant to NxCp.

S. Infantis and S. 6,7:-:1,5: All the strains isolated in broiler meat as well as in poultry offal meal were resistant to SuTNxCp (some of them were resistant to S too).

S. 4,5,12:i:- : The only strain resistant to ACSSuTF was isolated in pig meat.

S. 4,12:i:- : The only strain resistant to ASSuT was isolated in bovine animal and pig meat.

S. Agona: Two strains resistant to SuTK were isolated in turkey meat.

S. Derby, S. Egusitoo a S. Schwarzengrund: All the strains of these serotypes isolated in foodstuffs were fully sensitive.

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

The limited number of isolates allowed a limited evalution of the resistance level in food category only. All the strains of S. Infantis and S. 6,7:-:1,5 isolated in broiler meat as well as in poultry offal meal were resistant to SuTNxCp (some of them were resistant to S too).

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

Salmonella	Salmonella spp.		S. Enteritidis		S. Infantis		S. Newport		S. Virchow	
Isolates out of a monitoring program (yes/no)			yes		yes		yes		yes	
Number of isolates available in the laboratory			3		6		1		1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n
Amphenicols - Chloramphenicol			3	0	6	0	1	0	1	0
Amphenicols - Florfenicol			3	0	6	0	1	0	1	0
Fluoroquinolones - Ciprofloxacin			3	1	6	6	1	1	1	1
Quinolones - Nalidixic acid			3	1	6	6	1	1	1	1
Trimethoprim			3	0	6	0	1	0	1	0
Aminoglycosides - Streptomycin			3	0	6	0	1	0	1	0
Aminoglycosides - Gentamicin			3	0	6	0	1	0	1	0
Aminoglycosides - Kanamycin			3	0	6	0	1	1	1	0
Penicillins - Ampicillin			3	0	6	0	1	0	1	0
Tetracyclines - Tetracycline			3	0	6	6	1	1	1	0
Fully sensitive			3	2	6	0	1	0	1	0
Resistant to 1 antimicrobial			3	0	6	0	1	0	1	0
Resistant to 2 antimicrobials			3	1	6	0	1	0	1	1
Resistant to 3 antimicrobials			3	0	6	0	1	0	1	0
Resistant to 4 antimicrobials			3	0	6	6	1	0	1	0
Resistant to >4 antimicrobials			3	0	6	0	1	1	1	0
Cephalosporins - Cefotaxim			3	0	6	0	1	0	1	0
Cephalosporins - Ceftazidim			3	0	6	0	1	0	1	0
Sulphonamides - Sulfamethoxazol			3	0	6	6	1	1	1	0

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

Footnote:

S. Enteritidis: Fully sensitive - 2 x, NxCp resistance - 1 x; S. Infantis: (S)SuTNxCp resistance - 6 x; S. Newport: SuTKNxCp resistance - 1 x; S. Virchow: NxCp resistance - 1 x. Note to (S): MIC = 32 microg/ml.

Table Antimicrobial susceptibility testing of Salmonella in Turkeys

Salmonella	S. Enteritidis		S. Typhimurium		Salmonella spp.		S. Newport		S. Saintpaul		S. Senftenberg	
Isolates out of a monitoring program (yes/no)			yes				yes		yes		yes	
Number of isolates available in the laboratory			1				2		9		1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n
Amphenicols - Chloramphenicol			1	1			2	0	9	0	1	0
Amphenicols - Florfenicol			1	0			2	0	9	0	1	0
Fluoroquinolones - Ciprofloxacin			1	0			2	0	9	0	1	0
Quinolones - Nalidixic acid			1	0			2	0	9	0	1	0
Trimethoprim			1	0			2	0	9	8	1	0
Aminoglycosides - Streptomycin			1	1			2	0	9	0	1	0
Aminoglycosides - Gentamicin			1	0			2	0	9	0	1	0
Aminoglycosides - Kanamycin			1	0			2	0	9	0	1	0
Penicillins - Ampicillin			1	1			2	1	9	9	1	0
Tetracyclines - Tetracycline			1	1			2	2	9	8	1	0
Fully sensitive			1	0			2	0	9	0	1	1
Resistant to 1 antimicrobial			1	0			2	1	9	1	1	0
Resistant to 2 antimicrobials			1	0			2	1	9	0	1	0
Resistant to 3 antimicrobials			1	0			2	0	9	0	1	0
Resistant to 4 antimicrobials			1	0			2	0	9	8	1	0
Resistant to >4 antimicrobials			1	1			2	0	9	0	1	0
Number of multiresistant S. Typhimurium - with penta resistance			1	1								
Number of multiresistant S. Typhimurium - resistant to other antimicrobials			1	0								
Cephalosporins - Cefotaxim			1	0			2	0	9	0	1	0

Table Antimicrobial susceptibility testing of Salmonella in Turkeys

Salmonella	S. Enteritidis		S. Typhimurium		Salmonella spp.		S. Newport		S. Saintpaul		S. Senftenberg	
Isolates out of a monitoring program (yes/no)			yes				yes		yes		yes	
Number of isolates available in the laboratory			1				2		9		1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n
Cephalosporins - Ceftazidim			1	0			2	0	9	0	1	0
Sulphonamides - Sulfamethoxazol			1	1			2	0	9	8	1	0

Footnote:

S. Typhimurium: ACSSuT resistance - 1 x; S. Newport: A resistance - 1 x, AT resistance - 1 x; S. Saintpaul: A resistance - 1 x, ASuTW resistance - 1 x, A(S)SuTW resistance - 7 x;
S. Senftenberg: Fully sensitive - 1 x. Note to (S): MIC = 32 microg/ml.

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

Salmonella	S. Enteritidis		S. Typhimurium		Salmonella spp.		S. 6,8:e,h:-		S. Infantis		S. Oranienburg	
Isolates out of a monitoring program (yes/no)	yes		yes				yes		yes		yes	
Number of isolates available in the laboratory	13		1				1		3		1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n
Amphenicols - Chloramphenicol	13	0	1	0			1	0	3	0	1	0
Amphenicols - Florfenicol	13	0	1	0			1	0	3	0	1	0
Fluoroquinolones - Ciprofloxacin	13	0	1	0			1	1	3	2	1	0
Quinolones - Nalidixic acid	13	0	1	0			1	1	3	2	1	0
Trimethoprim	13	0	1	0			1	0	3	0	1	0
Aminoglycosides - Streptomycin	13	0	1	0			1	0	3	0	1	0
Aminoglycosides - Gentamicin	13	0	1	0			1	0	3	0	1	0
Aminoglycosides - Kanamycin	13	0	1	0			1	0	3	0	1	0
Penicillins - Ampicillin	13	0	1	0			1	0	3	0	1	0
Tetracyclines - Tetracycline	13	0	1	0			1	0	3	2	1	0
Fully sensitive	13	13	1	1			1	0	3	1	1	1
Resistant to 1 antimicrobial	13	0	1	0			1	0	3	0	1	0
Resistant to 2 antimicrobials	13	0	1	0			1	1	3	0	1	0
Resistant to 3 antimicrobials	13	0	1	0			1	0	3	0	1	0
Resistant to 4 antimicrobials	13	0	1	0			1	0	3	2	1	0
Resistant to >4 antimicrobials	13	0	1	0			1	0	3	0	1	0
Cephalosporins - Cefotaxim	13	0	1	0			1	0	3	0	1	0
Cephalosporins - Ceftazidim	13	0	1	0			1	0	3	0	1	0
Sulphonamides - Sulfamethoxazol	13	0	1	0			1	0	3	2	1	0

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

Footnote:

S. Enteritidis: Fully sensitive - 13 x; S. Typhimurium: Fully sensitive - 1 x; S. 6,8:e,h:- : NxCp resistance - 1x; S. Infantis: Fully sensitive - 1 x, SuTNxCp resistance - 2 x;

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

Salmonella	S. Enteritidis		S. Typhimurium		Salmonella spp.		S. 6,7:-:1,5		S. Infantis		S. Kentucky		S. Lille		S. Montevideo		S. Tennessee	
Isolates out of a monitoring program (yes/no)	yes		yes				yes		yes		yes		yes		yes		yes	
Number of isolates available in the laboratory	23		4				4		23		2		6		1		4	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Amphenicols - Chloramphenicol	23	0	4	0			4	0	23	0	2	0	6	0	1	0	4	0
Amphenicols - Florfenicol	23	0	4	0			4	0	23	0	2	0	6	0	1	0	4	0
Fluoroquinolones - Ciprofloxacin	23	0	4	0			4	4	23	23	2	0	6	0	1	0	4	0
Quinolones - Nalidixic acid	23	0	4	0			4	4	23	23	2	0	6	0	1	0	4	0
Trimethoprim	23	0	4	0			4	0	23	0	2	0	6	0	1	0	4	0
Aminoglycosides - Streptomycin	23	0	4	0			4	0	23	2	2	0	6	0	1	0	4	0
Aminoglycosides - Gentamicin	23	0	4	0			4	0	23	0	2	0	6	0	1	0	4	0
Aminoglycosides - Kanamycin	23	0	4	0			4	0	23	0	2	0	6	0	1	0	4	0
Penicillins - Ampicillin	23	0	4	0			4	0	23	0	2	0	6	0	1	0	4	0
Tetracyclines - Tetracycline	23	0	4	0			4	4	23	21	2	0	6	0	1	0	4	0
Fully sensitive	23	23	4	4			4	0	23	0	2	2	6	6	1	1	4	4
Resistant to 1 antimicrobial	23	0	4	0			4	0	23	0	2	0	6	0	1	0	4	0
Resistant to 2 antimicrobials	23	0	4	0			4	0	23	2	2	0	6	0	1	0	4	0
Resistant to 3 antimicrobials	23	0	4	0			4	0	23	0	2	0	6	0	1	0	4	0
Resistant to 4 antimicrobials	23	0	4	0			4	4	23	19	2	0	6	0	1	0	4	0
Resistant to >4 antimicrobials	23	0	4	0			4	0	23	2	2	0	6	0	1	0	4	0
Cephalosporins - Cefotaxim	23	0	4	0			4	0	23	0	2	0	6	0	1	0	4	0
Cephalosporins - Ceftazidim	23	0	4	0			4	0	23	0	2	0	6	0	1	0	4	0
Sulphonamides - Sulfamethoxazol	23	0	4	0			4	4	23	21	2	0	6	0	1	0	4	0

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

Footnote:

S. Enteritidis: Fully Sensitive - 23 x; S. Typhimurium: Fully sensitive - 4 x; S. 6,7:-.1,5 : (S)SuTNxCp resistance - 4 x; S. Infantis: NxCp resistance - 2 x, SuTNxCp resistance - 4 x, (S)SuTNxCp resistance - 15 x; SSuTNxCp resistance - 2 x; S. Kentucky: Fully sensitive - 1 x; S. Lille: Fully sensitive - 6 x; S. Montevideo: Fully sensitive - 1 x; S. Tennessee: Fully sensitive - 4 x. Note to (S): MIC = 32 microg/ml.

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

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

S. Infantis	Meat from broilers (Gallus gallus) - in total - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	6																								
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
Amphenicols - Chloramphenicol	16	6	0										4	2										2	64
Amphenicols - Florfenicol	16	6	0										4	2										2	64
Tetracyclines - Tetracycline	8	6	6															6						1	64
Fluoroquinolones - Ciprofloxacin	0.06	6	6							3	3													0.008	8
Quinolones - Nalidixic acid	16	6	6															6						4	64
Trimethoprim	2	6	0							6														0.5	32
Aminoglycosides - Streptomycin	32	6	0													6								0.5	32
Aminoglycosides - Gentamicin	2	6	0						4	2														0.25	32
Aminoglycosides - Kanamycin	8	6	0										6											4	128
Penicillins - Ampicillin	4	6	0									4	2											0.5	32
Cephalosporins - Cefotaxim	0.5	6	0					2	4															0.06	4
Cephalosporins - Ceftazidim	2	6	0							6														0.25	16
Sulphonamides - Sulfamethoxazol	256	6	6																			6		8	1024

Footnote:

(S)SuTNxCp resistance - 6 x. Note to (S): MIC = 32 microg/ml.

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

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

S. Enteritidis	Meat from broilers (Gallus gallus) - in total - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	3	0										3											2	64
Amphenicols - Florfenicol	16	3	0										3											2	64
Tetracyclines - Tetracycline	8	3	0								3													1	64
Fluoroquinolones - Ciprofloxacin	0.06	3	1			2			1															0.008	8
Quinolones - Nalidixic acid	16	3	1										2					1						4	64
Trimethoprim	2	3	0							3														0.5	32
Aminoglycosides - Streptomycin	32	3	0									2	1											2	128
Aminoglycosides - Gentamicin	2	3	0						2	1														0.25	32
Aminoglycosides - Kanamycin	8	3	0										3											4	128
Penicillins - Ampicillin	4	3	0								1	2												0.5	32
Cephalosporins - Cefotaxim	0.5	3	0				1	2																0.06	4
Cephalosporins - Ceftazidim	2	3	0						3															0.25	16
Sulphonamides - Sulfamethoxazol	256	3	0													3								8	1024

Footnote:

Fully sensitive - 2 x, NxCp resistance - 1 x.

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

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

S. Newport	Meat from broilers (Gallus gallus) - in total - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	1	0										1											2	64
Amphenicols - Florfenicol	16	1	0										1											2	64
Tetracyclines - Tetracycline	8	1	1															1						1	64
Fluoroquinolones - Ciprofloxacin	0.06	1	1						1															0.008	8
Quinolones - Nalidixic acid	16	1	1															1						4	64
Trimethoprim	2	1	0							1														0.5	32
Aminoglycosides - Streptomycin	32	1	0												1									2	128
Aminoglycosides - Gentamicin	2	1	0							1														0.25	32
Aminoglycosides - Kanamycin	8	1	1																1					4	128
Penicillins - Ampicillin	4	1	0									1												0.5	32
Cephalosporins - Cefotaxim	0.5	1	0					1																0.06	4
Cephalosporins - Ceftazidim	2	1	0						1															0.25	16
Sulphonamides - Sulfamethoxazol	256	1	1																			1		8	1024

Footnote:

SuTKNxCp resistance - 1 x.

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

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

S. Virchow	Meat from broilers (Gallus gallus) - in total - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	1	0										1											2	64
Amphenicols - Florfenicol	16	1	0										1											2	64
Tetracyclines - Tetracycline	8	1	0								1													1	64
Fluoroquinolones - Ciprofloxacin	0.06	1	1						1															0.008	8
Quinolones - Nalidixic acid	16	1	1															1						4	64
Trimethoprim	2	1	0							1														0.5	32
Aminoglycosides - Streptomycin	32	1	0												1									2	128
Aminoglycosides - Gentamicin	2	1	0							1														0.25	32
Aminoglycosides - Kanamycin	8	1	0										1											4	128
Penicillins - Ampicillin	4	1	0								1													0.5	32
Cephalosporins - Cefotaxim	0.5	1	0				1																	0.06	4
Cephalosporins - Ceftazidim	2	1	0						1															0.25	16
Sulphonamides - Sulfamethoxazol	256	1	0												1									8	1024

Footnote:

NxCp resistance - 1 x.

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

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

S. Enteritidis	Gallus gallus (fowl) - laying hens - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	13																								
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
Amphenicols - Chloramphenicol	16	13	0									1	12											2	64
Amphenicols - Florfenicol	16	13	0									1	12											2	64
Tetracyclines - Tetracycline	8	13	0								12	1												1	64
Fluoroquinolones - Ciprofloxacin	0.06	13	0		3	10																		0.008	8
Quinolones - Nalidixic acid	16	13	0										13											4	64
Trimethoprim	2	13	0							13														0.5	32
Aminoglycosides - Streptomycin	32	13	0								6	7												2	128
Aminoglycosides - Gentamicin	2	13	0						12	1														0.25	32
Aminoglycosides - Kanamycin	8	13	0										13											4	128
Penicillins - Ampicillin	4	13	0								4	9												0.5	32
Cephalosporins - Cefotaxim	0.5	13	0				3	10																0.06	4
Cephalosporins - Ceftazidim	2	13	0						11	2														0.25	32
Sulphonamides - Sulfamethoxazol	256	13	0													10	3							8	1024

Footnote:

Fully sensitive - 13 x.

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

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

S. Infantis	Gallus gallus (fowl) - laying hens - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	3	0										3											2	64
Amphenicols - Florfenicol	16	3	0										3											2	64
Tetracyclines - Tetracycline	8	3	2								1							2						1	64
Fluoroquinolones - Ciprofloxacin	0.06	3	2		1					2														0.008	8
Quinolones - Nalidixic acid	16	3	2										1					2						4	64
Trimethoprim	2	3	0							3														0.5	32
Aminoglycosides - Streptomycin	32	3	0												1	2								2	128
Aminoglycosides - Gentamicin	2	3	0						3															0.25	32
Aminoglycosides - Kanamycin	8	3	0										3											4	128
Penicillins - Ampicillin	4	3	0									3												0.5	32
Cephalosporins - Cefotaxim	0.5	3	0					3																0.06	4
Cephalosporins - Ceftazidim	2	3	0							3														0.25	16
Sulphonamides - Sulfamethoxazol	256	3	2													1						2		8	1024

Footnote:

Fully sensitive - 1 x, (S)SuTNxCp resistance - 2 x. Note to (S): 32 microg/ml.

Table Antimicrobial susceptibility testing of S. Typhimurium 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. Typhimurium	Gallus gallus (fowl) - laying hens - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	1	0										1											2	64
Amphenicols - Florfenicol	16	1	0									1												2	64
Tetracyclines - Tetracycline	8	1	0								1													1	64
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																		0.008	8
Quinolones - Nalidixic acid	16	1	0										1											4	64
Trimethoprim	2	1	0							1														0.5	32
Aminoglycosides - Streptomycin	32	1	0											1										2	128
Aminoglycosides - Gentamicin	2	1	0						1															0.25	32
Aminoglycosides - Kanamycin	8	1	0										1											4	128
Penicillins - Ampicillin	4	1	0								1													0.5	32
Cephalosporins - Cefotaxim	0.5	1	0					1																0.06	4
Cephalosporins - Ceftazidim	2	1	0						1															0.25	16
Sulphonamides - Sulfamethoxazol	256	1	0													1								8	1024

Footnote:

Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. Oranienburg 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. Oranienburg	Gallus gallus (fowl) - laying hens - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	1	0										1											2	64
Amphenicols - Florfenicol	16	1	0										1											2	64
Tetracyclines - Tetracycline	8	1	0									1												1	64
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																		0.008	8
Quinolones - Nalidixic acid	16	1	0										1											4	64
Trimethoprim	2	1	0							1														0.5	32
Aminoglycosides - Streptomycin	32	1	0											1										2	128
Aminoglycosides - Gentamicin	2	1	0							1														0.25	32
Aminoglycosides - Kanamycin	8	1	0										1											4	128
Penicillins - Ampicillin	4	1	0								1													0.5	32
Cephalosporins - Cefotaxim	0.5	1	0					1																0.06	4
Cephalosporins - Ceftazidim	2	1	0							1														0.25	16
Sulphonamides - Sulfamethoxazol	256	1	0													1								8	1024

Footnote:

Fully sensitive - 1 x.

Table Antimicrobial susceptibility testing of S. 6,8:e,h:- 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. 6,8:e,h:-	Gallus gallus (fowl) - laying hens - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	1	0									1												2	64
Amphenicols - Florfenicol	16	1	0									1												2	64
Tetracyclines - Tetracycline	8	1	0								1													1	64
Fluoroquinolones - Ciprofloxacin	0.06	1	1						1															0.008	8
Quinolones - Nalidixic acid	16	1	1															1						4	64
Trimethoprim	2	1	0							1														0.5	32
Aminoglycosides - Streptomycin	32	1	0											1										2	128
Aminoglycosides - Gentamicin	2	1	0						1															0.25	32
Aminoglycosides - Kanamycin	8	1	0										1											4	128
Penicillins - Ampicillin	4	1	0								1													0.5	32
Cephalosporins - Cefotaxim	0.5	1	0				1																	0.06	4
Cephalosporins - Ceftazidim	2	1	0						1															0.25	16
Sulphonamides - Sulfamethoxazol	256	1	0												1									8	1024

Footnote:

NxCp resistance - 1 x.

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

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

S. Enteritidis	Gallus gallus (fowl) - broilers - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	23																								
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
Amphenicols - Chloramphenicol	16	23	0									2	21											2	64
Amphenicols - Florfenicol	16	23	0									4	19											2	64
Tetracyclines - Tetracycline	8	23	0								23													1	64
Fluoroquinolones - Ciprofloxacin	0.06	23	0		1	22																		0.008	8
Quinolones - Nalidixic acid	16	23	0										23											4	64
Trimethoprim	2	23	0							23														0.5	32
Aminoglycosides - Streptomycin	32	23	0									5	16	2										2	128
Aminoglycosides - Gentamicin	2	23	0						19	3	1													0.25	32
Aminoglycosides - Kanamycin	8	23	0										23											4	128
Penicillins - Ampicillin	4	23	0								3	20												0.5	32
Cephalosporins - Cefotaxim	0.5	23	0				4	17	2															0.06	4
Cephalosporins - Ceftazidim	2	23	0						20	3														0.25	16
Sulphonamides - Sulfamethoxazol	256	23	0												1	17	5							8	1024

Footnote:

Fully sensitive - 23 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	Gallus gallus (fowl) - broilers - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	4																								
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
Amphenicols - Chloramphenicol	16	4	0										4											2	64
Amphenicols - Florfenicol	16	4	0									2	2											2	64
Tetracyclines - Tetracycline	8	4	0								3	1												1	64
Fluoroquinolones - Ciprofloxacin	0.06	4	0			4																		0.008	8
Quinolones - Nalidixic acid	16	4	0										4											4	64
Trimethoprim	2	4	0							4														0.5	32
Aminoglycosides - Streptomycin	32	4	0											3	1									2	128
Aminoglycosides - Gentamicin	2	4	0						1	3														0.25	32
Aminoglycosides - Kanamycin	8	4	0										4											4	128
Penicillins - Ampicillin	4	4	0								1	1	2											0.5	32
Cephalosporins - Cefotaxim	0.5	4	0				2	2																0.06	4
Cephalosporins - Ceftazidim	2	4	0						3	1														0.25	16
Sulphonamides - Sulfamethoxazol	256	4	0													4								8	1024

Footnote:

Fully sensitive - 4 x.

Table Antimicrobial susceptibility testing of S. 6,7:-:1,5 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. 6,7:-:1,5	Gallus gallus (fowl) - broilers - at farm - Monitoring																							
Isolates out of a monitoring program (yes/no)	yes																							
Number of isolates available in the laboratory	4																							
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
Amphenicols - Chloramphenicol	16	4	0										3	1										2	64
Amphenicols - Florfenicol	16	4	0										3	1										2	64
Tetracyclines - Tetracycline	8	4	4															4						1	64
Fluoroquinolones - Ciprofloxacin	0.06	4	4							2	2													0.008	8
Quinolones - Nalidixic acid	16	4	4															4						4	64
Trimethoprim	2	4	0							4														0.5	32
Aminoglycosides - Streptomycin	32	4	0													4								2	128
Aminoglycosides - Gentamicin	2	4	0						4															0.25	32
Aminoglycosides - Kanamycin	8	4	0										4											4	128
Penicillins - Ampicillin	4	4	0									3	1											0.5	32
Cephalosporins - Cefotaxim	0.5	4	0						4															0.06	4
Cephalosporins - Ceftazidim	2	4	0							4														0.25	16
Sulphonamides - Sulfamethoxazol	256	4	4																			4		8	1024

Footnote:

(S)SuTNxCp resistance - 4 x. Note to (S): MIC = 32 microg/ml.

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	Gallus gallus (fowl) - broilers - at farm - Monitoring																							
Isolates out of a monitoring program (yes/no)	yes																							
Number of isolates available in the laboratory	23																							
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
Amphenicols - Chloramphenicol	16	23	0										5	18									2	64
Amphenicols - Florfenicol	16	23	0										7	16									2	64
Tetracyclines - Tetracycline	8	23	21									2						21					1	64
Fluoroquinolones - Ciprofloxacin	0.06	23	23							18	5												0.008	8
Quinolones - Nalidixic acid	16	23	23															23					4	64
Trimethoprim	2	23	0							23													0.5	32
Aminoglycosides - Streptomycin	32	23	2										2		4	15	2						2	128
Aminoglycosides - Gentamicin	2	23	0						19	4													0.25	32
Aminoglycosides - Kanamycin	8	23	0										23										4	128
Penicillins - Ampicillin	4	23	0								7	13	3										0.5	32
Cephalosporins - Cefotaxim	0.5	23	0					13	9	1													0.06	4
Cephalosporins - Ceftazidim	2	23	0						1	18	4												0.25	16
Sulphonamides - Sulfamethoxazol	256	23	21													2						21	8	1024

Footnote:

Fully sensitive - 2 x, SSuTNxCp resistance - 4 x, (S)SuTNxCp resistance - 15 x, SSuTNxCp resistance - 2 x. Note to (S): MIC = 32 microg/ml.

Table Antimicrobial susceptibility testing of S. Kentucky 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. Kentucky	Gallus gallus (fowl) - broilers - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	2	0										2											2	64
Amphenicols - Florfenicol	16	2	0										2											2	64
Tetracyclines - Tetracycline	8	2	0									2												1	64
Fluoroquinolones - Ciprofloxacin	0.06	2	0			2																		0.008	8
Quinolones - Nalidixic acid	16	2	0										2											4	64
Trimethoprim	2	2	0							2														0.5	32
Aminoglycosides - Streptomycin	32	2	0											2										2	128
Aminoglycosides - Gentamicin	2	2	0						1	1														0.25	32
Aminoglycosides - Kanamycin	8	2	0										2											4	128
Penicillins - Ampicillin	4	2	0								1	1												0.5	32
Cephalosporins - Cefotaxim	0.5	2	0					1	1															0.06	4
Cephalosporins - Ceftazidim	2	2	0							2														0.25	16
Sulphonamides - Sulfamethoxazol	256	2	0													2								8	1024

Footnote:

Fully sensitive - 2 x.

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	Gallus gallus (fowl) - broilers - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	6																								
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
Amphenicols - Chloramphenicol	16	6	0										5	1										2	64
Amphenicols - Florfenicol	16	6	0										6											2	64
Tetracyclines - Tetracycline	8	6	0									6												1	64
Fluoroquinolones - Ciprofloxacin	0.06	6	0		4	2																		0.008	8
Quinolones - Nalidixic acid	16	6	0										6											4	64
Trimethoprim	2	6	0							6														0.5	32
Aminoglycosides - Streptomycin	32	6	0											6										2	128
Aminoglycosides - Gentamicin	2	6	0						5	1														0.25	32
Aminoglycosides - Kanamycin	8	6	0										6											4	128
Penicillins - Ampicillin	4	6	0								6													0.5	32
Cephalosporins - Cefotaxim	0.5	6	0					6																0.06	4
Cephalosporins - Ceftazidim	2	6	0							6														0.25	16
Sulphonamides - Sulfamethoxazol	256	6	0													1	5							8	1024

Footnote:

Fully sensitive - 6 x.

Table Antimicrobial susceptibility testing of S. Montevideo 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. Montevideo	Gallus gallus (fowl) - broilers - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	1	0										1											2	64
Amphenicols - Florfenicol	16	1	0										1											2	64
Tetracyclines - Tetracycline	8	1	0								1													1	64
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																		0.008	8
Quinolones - Nalidixic acid	16	1	0										1											4	64
Trimethoprim	2	1	0							1														0.5	32
Aminoglycosides - Streptomycin	32	1	0											1										2	128
Aminoglycosides - Gentamicin	2	1	0							1														0.25	32
Aminoglycosides - Kanamycin	8	1	0										1											4	128
Penicillins - Ampicillin	4	1	0								1													0.5	32
Cephalosporins - Cefotaxim	0.5	1	0				1																	0.06	4
Cephalosporins - Ceftazidim	2	1	0						1															0.25	16
Sulphonamides - Sulfamethoxazol	256	1	0													1								8	1024

Footnote:

Fully sensitive - 1 x.

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	Gallus gallus (fowl) - broilers - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	4																								
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
Amphenicols - Chloramphenicol	16	4	0										4											2	64
Amphenicols - Florfenicol	16	4	0										4											2	64
Tetracyclines - Tetracycline	8	4	0								3	1												1	64
Fluoroquinolones - Ciprofloxacin	0.06	4	0		2	2																		0.008	8
Quinolones - Nalidixic acid	16	4	0										4											4	64
Trimethoprim	2	4	0							4														0.5	32
Aminoglycosides - Streptomycin	32	4	0											3	1									2	128
Aminoglycosides - Gentamicin	2	4	0						4															0.25	32
Aminoglycosides - Kanamycin	8	4	0										4											4	128
Penicillins - Ampicillin	4	4	0								4													0.5	32
Cephalosporins - Cefotaxim	0.5	4	0					4																0.06	4
Cephalosporins - Ceftazidim	2	4	0							4														0.25	16
Sulphonamides - Sulfamethoxazol	256	4	0													1	3							8	1024

Footnote:

Fully sensitive - 4 x.

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

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

S. Typhimurium	Turkeys - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	1	1															1						2	64
Amphenicols - Florfenicol	16	1	0												1									2	64
Tetracyclines - Tetracycline	8	1	1															1						1	64
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																		0.008	8
Quinolones - Nalidixic acid	16	1	0										1											4	64
Trimethoprim	2	1	0							1														0.5	32
Aminoglycosides - Streptomycin	32	1	1																1					2	128
Aminoglycosides - Gentamicin	2	1	0							1														0.25	32
Aminoglycosides - Kanamycin	8	1	0										1											4	128
Penicillins - Ampicillin	4	1	1														1							0.5	32
Cephalosporins - Cefotaxim	0.5	1	0					1																0.06	4
Cephalosporins - Ceftazidim	2	1	0						1															0.25	16
Sulphonamides - Sulfamethoxazol	256	1	1																			1		8	1024

Footnote:

ACSSuT resistance - 1 x.

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

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

S. Newport	Turkeys - mixed flocks/holdings - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	2	0									2												2	64
Amphenicols - Florfenicol	16	2	0									2												2	64
Tetracyclines - Tetracycline	8	2	2															2						1	64
Fluoroquinolones - Ciprofloxacin	0.06	2	0		1	1																		0.008	8
Quinolones - Nalidixic acid	16	2	0										2											4	64
Trimethoprim	2	2	0							2														0.5	32
Aminoglycosides - Streptomycin	32	2	0											2										2	128
Aminoglycosides - Gentamicin	2	2	0							2														0.25	32
Aminoglycosides - Kanamycin	8	2	0										2											4	128
Penicillins - Ampicillin	4	2	1								1						1							0.5	32
Cephalosporins - Cefotaxim	0.5	2	0				1	1																0.06	4
Cephalosporins - Ceftazidim	2	2	0						2															0.25	16
Sulphonamides - Sulfamethoxazol	256	2	0													2								8	1024

Footnote:

AT resistance - 1 x, T resistance - 1 x.

Table Antimicrobial susceptibility testing of S. Saintpaul in Turkeys - mixed flocks/holdings - at farm - Monitoring - quantitative data [Dilution method]

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

S. Saintpaul	Turkeys - mixed flocks/holdings - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	9																								
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
Amphenicols - Chloramphenicol	16	9	0										9											2	64
Amphenicols - Florfenicol	16	9	0										9											2	64
Tetracyclines - Tetracycline	8	9	8									1						8						1	64
Fluoroquinolones - Ciprofloxacin	0.06	9	0		5	4																		0.008	8
Quinolones - Nalidixic acid	16	9	0										9											4	64
Trimethoprim	2	9	8							1							8							0.5	32
Aminoglycosides - Streptomycin	32	9	0										1		1	7								2	128
Aminoglycosides - Gentamicin	2	9	0						6	3														0.25	32
Aminoglycosides - Kanamycin	8	9	0										9											4	128
Penicillins - Ampicillin	4	9	9														9							0.5	32
Cephalosporins - Cefotaxim	0.5	9	0					8	1															0.06	4
Cephalosporins - Ceftazidim	2	9	0						3	6														0.25	16
Sulphonamides - Sulfamethoxazol	256	9	8											1								8		8	1024

Footnote:

A resistance - 1 x, ASuTW resistance - 1 x, A(S)SuTW resistance - 7 x. Note to (S): MIC = 32 microg/ml.

Table Antimicrobial susceptibility testing of S. Senftenberg in Turkeys - mixed flocks/holdings - at farm - Monitoring - quantitative data [Dilution method]

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

S. Senftenberg	Turkeys - mixed flocks/holdings - at farm - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	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
Amphenicols - Chloramphenicol	16	1	0										1											2	64
Amphenicols - Florfenicol	16	1	0										1											2	64
Tetracyclines - Tetracycline	8	1	0									1												1	64
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																		0.008	8
Quinolones - Nalidixic acid	16	1	0										1											4	64
Trimethoprim	2	1	0							1														0.5	32
Aminoglycosides - Streptomycin	32	1	0												1									2	128
Aminoglycosides - Gentamicin	2	1	0							1														0.25	32
Aminoglycosides - Kanamycin	8	1	0										1											4	128
Penicillins - Ampicillin	4	1	0									1												0.5	32
Cephalosporins - Cefotaxim	0.5	1	0						1															0.06	4
Cephalosporins - Ceftazidim	2	1	0							1														0.25	16
Sulphonamides - Sulfamethoxazol	256	1	0														1							8	1024

Footnote:

Fully sensitive - 1 x.

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

Test Method Used
Broth dilution

Standard methods used for testing
NCCLS/CLSI WHO GSS EUCAST ISO

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol	EFSA/EC/EUCAST	16	
	Florfenicol	EUCAST	16	
Tetracyclines	Tetracycline	EFSA/EC/EUCAST	8	
Fluoroquinolones	Ciprofloxacin	EFSA/EC/EUCAST	0.06	
Quinolones	Nalidixic acid	EFSA/EC/EUCAST	16	
Trimethoprim	Trimethoprim	EFSA/EC/EUCAST	2	
Sulphonamides	Sulphonamides		256	
	Sulfamethoxazol	EFSA/EC	256	
Aminoglycosides	Streptomycin	EFSA/EC	32	
	Gentamicin	EFSA/EC/EUCAST	2	
	Kanamycin	EUCAST	8	
Cephalosporins	Cefotaxim	EFSA/EC/EUCAST	0.5	
	Ceftazidim	EUCAST	2	

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Penicillins	Ampicillin	EFSA/EC	4	

Footnote:

EFSA - EFSA's recomendations, In: The EFSA Journal (2007), 96, 1 - 46.
EC - Commision Decision 2007/407/EC, In: Official Journal of the European Union (2007), L 153, 26 - 29.
EUCAST - Antimicrobial distribution of microorganisms, version 5.12, In: www.eucast.org.
Note to Kanamycin: EUCAST - ECOFF for Salmonella ND, for E. coli R>8.
Note to Streptomycin: CLSI - no breakpoint, EUCAST - R>16, EFSA, EC, ARBAO and NARMS - R>32.

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used
Broth dilution

Standard methods used for testing
NCCLS/CLSI EUCAST WHO GSS ISO

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol	EFSA/EC/EUCAST	16	
	Florfenicol	EUCAST	16	
Tetracyclines	Tetracycline	EFSA/EC/EUCAST	8	
Fluoroquinolones	Ciprofloxacin	EFSA/EC/EUCAST	0.06	
Quinolones	Nalidixic acid	EFSA/EC/EUCAST	16	
Trimethoprim	Trimethoprim	EFSA/EC/EUCAST	2	
Sulphonamides	Sulphonamides		256	
	Sulfamethoxazol	EFSA/EC	256	
Aminoglycosides	Streptomycin	EFSA/EC	32	
	Gentamicin	EFSA/EC/EUCAST	2	
	Kanamycin	EUCAST	8	
Cephalosporins	Cefotaxim	EFSA/EC/EUCAST	0.5	
	Ceftazidim	EUCAST	2	

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Penicillins	Ampicillin	EFSA/EC	4	

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 and according Regulation (EC) No 2073/2005. 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 2010 there were investigated 812 animals for presence of Campylobacter spp. In comparison with 2009 number of samples decreased. 59 samples were positive (23 x cattle, 10 x sheep, 12x pigs, 10x cats and dogs, 4x birds).

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 323 samples were investigated with positive findings of Campylobacter jejuni in 5 samples of raw cow´s milk.

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 Campylobacteriosis in humans

A. Thermophilic Campylobacter in humans

Reporting system in place for the human cases

Campylobacteriosis is reported mandatory, reporting persons are physicians and laboratories.

Case definition

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

Diagnostic/analytical methods used

Isolation of Campylobacter species from any clinical specimen.

History of the disease and/or infection in the country

Campylobacteriosis is reported in Slovakia since the 80-ties.

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

The trends of campylobacteriosis are stabile in Slovakia. The highest age-specific incidence in the children has been reported up to 1 year of age. The risk factor of transmission was found in sheep milk, sheep cheeses and other sheep products and poultry.

2.2.3 Campylobacter in foodstuffs

A. Campylobacter spp. in food

Monitoring system

Sampling strategy

All obtained data were collected from the State Veterinary and Food Institutes, the State 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 and according Regulation (EC) No 2073/2005. 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.

Frequency of the sampling

according to work out a plan taking of samples
as a targeted control, just occasionally

Type of specimen taken

foodstuffs

Diagnostic/analytical methods used

Methods of sampling - according the valid STN
Diagnostic/analytical methods used STN EN ISO 10272-1

Results of the investigation

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 323 samples were investigated with positive findings of Campylobacter jejuni in 5 samples of raw cow´s milk.

Table Campylobacter in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Cheeses made from cows' milk - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	3	0					
Cheeses made from sheep's milk - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	1	0					
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance - official controls	SVFI	Single	25 g	3	0					
Meat from bovine animals - minced meat - intended to be eaten cooked - at catering - Surveillance - official controls	PHA	Single	25 g	1	0					
Meat from pig - minced meat - at catering - Surveillance - official controls	PHA	Single	10 g	5	0					
Milk, cows' - raw - at processing plant - Monitoring - official sampling	SVFI	Single	25 ml	185	5		5			
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at catering - Surveillance - official controls	PHA	Batch	25 g	89	0					
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - domestic production - Surveillance - official controls	PHA	Batch	10 g	36	0					

Table Campylobacter in poultry meat

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at catering - Surveillance - official controls	PHA	Batch	25 g	34	0					
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - imported - Surveillance - official controls - suspect sampling	SVFI	Single	25 g	1	0					
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - at catering - Surveillance - official controls	PHA	Single	10 g	2	0					
Meat from turkey - meat products - cooked, ready-to -eat - at catering - Surveillance - official controls	PHA	Single	25 g	1	0					

2.2.4 Campylobacter in animals

A. Campylobacter spp. in animal

Monitoring system

Sampling strategy

Monitoring for campylobacteriosis in Slovac Republic is not adopted.
Samples are taken by official veterinarians or private veterinarians in case of suspicion for disease or on base of clinical signs.

Frequency of the sampling

Samples are taken by official veterinarians or private veterinarians in case of suspicion for disease or on base of clinical signs.

Type of specimen taken

faeces

Vaccination policy

vaccination in Slovac Republic is not performed.

Results of the investigation

During 2010 there were investigated 812 animals for presence of Campylobacter spp. In comparison with 2009 number of samples decreased. 59 samples were positive (23 x cattle, 10 x sheep, 12x pigs, 10x cats and dogs, 4x birds). Positive samples were detected as C. jejuni 10X), C. coli (12x) and C. spp (37x).

Table Campylobacter in animals

	Source of information	Sampling unit	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Cats - pet animals - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	15	1		1			
Cats - pet animals - at farm - animal sample - mucosal swab - Clinical investigations	SVI, SVFI	Animal	3	0					
Cats - pet animals - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	2	0					
Cattle (bovine animals) - at farm - animal sample - foetus/stillbirth - Control and eradication programmes - official sampling	SVI, SVFI	Animal	77	0					
Cattle (bovine animals) - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	8	0					
Cattle (bovine animals) - breeding bulls - at farm - animal sample - mucosal swab	SVI, SVFI	Animal	105	0					
Cattle (bovine animals) - calves (under 1 year) - at farm - animal sample - mucosal swab - Clinical investigations	SVI, SVFI	Animal	11	4	4				
Cattle (bovine animals) - calves (under 1 year) - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	160	19	3	1			15
Dogs - pet animals - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	77	9		2			7
Dogs - pet animals - at farm - animal sample - mucosal swab - Clinical investigations	SVI, SVFI	Animal	5	0					
Dogs - pet animals - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	11	0					

Table Campylobacter in animals

	Source of information	Sampling unit	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Ducks - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Flock	1	0					
Fur animals - farmed - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	3	0					
Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - carcass swabs - Monitoring - official sampling	SVI, SVFI	Flock	4	0					
Gallus gallus (fowl) - broilers - before slaughter - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Flock	4	0					
Gallus gallus (fowl) - broilers - before slaughter - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Flock	12	0					
Gallus gallus (fowl) - broilers - day-old chicks - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Flock	17	0					
Geese - meat production flocks - at farm - animal sample - mucosal swab - Clinical investigations	SVI, SVFI	Flock	1	0					
Geese - meat production flocks - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Flock	3	0					
Goats - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	5	0					
Mice - laboratory animal - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Flock	1	0					
Minks - farmed - at farm - animal sample - mucosal swab - Clinical investigations	SVI, SVFI	Animal	1	0					

Table Campylobacter in animals

	Source of information	Sampling unit	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Other animals - exotic pet animals - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Flock	2	0					
Other animals - exotic pet animals - at farm - animal sample - mucosal swab - Clinical investigations	SVI, SVFI	Flock	7	0					
Other animals - exotic pet animals - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Flock	12	1		1			
Parrots - at farm - animal sample - mucosal swab - Clinical investigations	SVI, SVFI	Flock	1	0					
Parrots - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	1	0					
Pheasants - pet animals - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Flock	1	0					
Pigeons - meat production flocks - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Flock	8	3		3			
Pigs - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	105	11	4				7
Pigs - fattening pigs - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	12	1		1			
Reptiles - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	1	0					
Sheep - animals over 1 year - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	14	0					

Table Campylobacter in animals

	Source of information	Sampling unit	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Sheep - animals under 1 year (lambs) - at farm - animal sample - mucosal swab - Clinical investigations	SVI, SVFI	Animal	2	1	1				
Sheep - animals under 1 year (lambs) - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	57	9		1			8
Sheep - at farm - animal sample - foetus/stillbirth - Control and eradication programmes - official sampling	SVI, SVFI	Animal	43	0					
Solipeds, domestic - horses - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	1	0					
Turkeys - fattening flocks - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Flock	1	0					
Turkeys - fattening flocks - before slaughter - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Flock	3	0					
Wild animals - from hunting - Clinical investigations	SVI, SVFI	Animal	4	0					
Zoo animals, all - at zoo - Clinical investigations	SVI, SVFI	Animal	11	0					

2.2.5 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

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

Within the framework of monitoring antimicrobial resistance it was necessary to test minimum 170 isolates of Campylobacter spp. Not more than one isolate per Campylobacter species from the same slaughter batch was included in the monitoring.
If it was a lower number of isolates than the target sample size available, all these isolates would be included in the antimicrobial resistance monitoring.
In our case a higher number of isolates was available so we included all isolates.
Totally 253 isolates of Campylobacter C. jejuni, C. coli) were tested. Within survey there were 324 positive isolates of Campylobacter spp. detected, 71 of them presented mixed bacterial culture of C. jejuni and C. coli, which were confirmed by PCR.
In term of MIC level these mixed samples are not suitable for antimicrobial testing. To analyses there were only pure cultures chosen. Resistance to antimicrobials varied from 6, 7 % of isolates resistant to gentamicin to 65% isolates resistant to chinolones. Mostly alarming is resistance to chinolones (oxolin acid) and fluorchinolones (ciprofloxacin).

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

Situation related to other tested antimicrobials is favourable.

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

Campylobacter	Campylobacter spp., unspecified	
Isolates out of a monitoring program (yes/no)	no	
Number of isolates available in the laboratory	15	
Antimicrobials:	N	n
Fluoroquinolones - Ciprofloxacin	15	7
Quinolones - Nalidixic acid	15	9
Aminoglycosides - Gentamicin	15	0
Macrolides - Erythromycin	13	3
Tetracyclines - Tetracycline	15	8
Fully sensitive	15	0
Resistant to 1 antimicrobial	15	4
Resistant to 2 antimicrobials	15	2
Resistant to 3 antimicrobials	15	4
Resistant to 4 antimicrobials	15	5
Resistant to >4 antimicrobials	15	0

Table Antimicrobial susceptibility testing of Campylobacter in Pigs

Campylobacter	Campylobacter spp., unspecified	
Isolates out of a monitoring program (yes/no)	no	
Number of isolates available in the laboratory	6	
Antimicrobials:	N	n
Fluoroquinolones - Ciprofloxacin	6	2
Quinolones - Nalidixic acid	3	1
Aminoglycosides - Gentamicin	6	0
Macrolides - Erythromycin	6	0
Tetracyclines - Tetracycline	5	1
Fully sensitive	6	1
Resistant to 1 antimicrobial	6	4
Resistant to 2 antimicrobials	6	0
Resistant to 3 antimicrobials	6	1
Resistant to 4 antimicrobials	6	0
Resistant to >4 antimicrobials	6	0

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

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

Table Antimicrobial susceptibility testing of Campylobacter in Meat from broilers (Gallus gallus)

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

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

Test Method Used
Broth dilution

Standard methods used for testing
NCCLS/CLSI

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Quinolones	Nalidixic acid		8	
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Macrolides	Erythromycin		16	
Penicillins	Ampicillin		4	

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used
Broth dilution

Standard methods used for testing
NCCLS/CLSI

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Quinolones	Nalidixic acid		8	
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Macrolides	Erythromycin		16	
Penicillins	Ampicillin		4	

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

Test Method Used
Broth dilution

Standard methods used for testing
NCCLS/CLSI

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Quinolones	Nalidixic acid		8	
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Macrolides	Erythromycin		4	
Penicillins	Ampicillin		4	

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Quinolones	Nalidixic acid		8	
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Macrolides	Erythromycin		4	
Penicillins	Ampicillin		4	

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.

Milk and dairy products
Regarding milk testing and products thereof, the types of samples are specified in Regulation (EC) No 2073/2005 as amended by Regulation (EC) No 1441/2007. The samples according to their character and predisposition to Listeria (aw, pH, shelf-life) were tested for Listeria presence or enumeration analysis.
A total 1860 samples were tested for presence of Listeria monocytogenes with positive finding in 17 samples (1,27%). The most positive findings were found in cheeses made from cow´s milk. Interesting was positive sample of butter.

Other foodstuffs
In respect of other food, mainly meat and meat products a processed food and dishes were under inspection. A total 2637samples of other food were investigated were tested for LM presence, thereof 33 positive samples and thereof 3 samples were beyond 100 CFU/g.
The most positive findings were detected in processed food (14x). All exceeded limits of Listeria monocytogenes in 1g were recorded in meat from pigs (1x) and products fom meat of pigs (2x). Further finding were in fishery products, fruit and vegetable, products from mixed meat and ready to eat salads.

Animals
In 2010 there were investigated 926 samples of animal tissues and blood, mostly at farm, for Listeria spp. with positive findings in 55 samples of cattle and sheep.
Comparing with previous year 2009, number of samples decreased but number of positive samples increased.

Recent actions taken to control the zoonoses

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 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.

2.3.2 Listeriosis in humans

A. Listeriosis in humans

Reporting system in place for the human cases

Disease is reported mandatory by physicians on microbiological labs.

Case definition

Infection caused by Listeria monocytogenes, which may produce any several clinical syndromes, including stillbirth, listeriosis of newborn, meningitis, bacteriemia or localized infections.

Diagnostic/analytical methods used

isolation of L-monocytogenes from a normally sterile site (e.g. blood or cerebrospinal fluid or, less commonly, joint, pleural, or pericardial fluid).

Results of the investigation

Sporadic cases are reported in Slovakia

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

Trend of disease is stabile, sporadic cases from 2-10 cases per year, sporadic professional disease.

2.3.3 Listeria in foodstuffs

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	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 processing plant	SVFI	Batch	25 g	1	1	1	1			
Cheeses made from cows' milk - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	39	0	39	0			
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	4	0			4	0	0
Cheeses made from cows' milk - soft and semi-soft - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	16	0	16	0			
Cheeses made from cows' milk - soft and semi-soft - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	17	0			17	0	0
Cheeses made from cows' milk - soft and semi-soft - at retail - imported - Surveillance - official controls	SVFI	Batch	10 g	9	0			9	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance - official controls	SVFI	Batch	10 g, 25 g	69	2	68	2	1	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g, 25 g	102	1	1	0	101	0	1

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	8	0	8	0			
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	5	0			5	0	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	179	2	176	2	3	0	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	2	0			2	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	1	0	1	0			
Cheeses, made from mixed milk from cows, sheep and/or goats - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	1	0	1	0			
Cheeses, made from mixed milk from cows, sheep and/or goats - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	6	0			6	0	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 - official controls	SVFI	Batch	10 g, 25 g	74	0	64	0	10	0	0

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses, made from mixed milk from cows, sheep and/or goats - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	34	0			34	0	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 retail - imported - Surveillance - official controls	SVFI	Batch	10 g	7	0			7	0	0
Dairy products (excluding cheeses) - butter - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	16	1	16	1			
Dairy products (excluding cheeses) - butter - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	25	0			25	0	0
Dairy products (excluding cheeses) - butter - at retail - imported - Surveillance - official controls	SVFI	Batch	10 g	6	0			6	0	0
Dairy products (excluding cheeses) - cream - at processing plant - Surveillance - official controls	SVFI	Batch	25 ml	5	0	5	0			
Dairy products (excluding cheeses) - cream - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 ml	20	0			20	0	0
Dairy products (excluding cheeses) - cream - at retail - imported - Surveillance - official controls	SVFI	Batch	10 ml	1	0			1	0	0
Dairy products (excluding cheeses) - dairy desserts - at processing plant - Surveillance - official controls	SVFI	Batch	10 g, 25 g	26	0	26	0			

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Dairy products (excluding cheeses) - dairy desserts - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	84	0			84	0	0
Dairy products (excluding cheeses) - dairy desserts - at retail - imported - Surveillance - official controls	SVFI	Batch	10 g	3	0			3	0	0
Dairy products (excluding cheeses) - dairy desserts - frozen - at processing plant - Surveillance - official controls	SVFI	Batch	10 g, 25 g	8	0	7	0	1	0	0
Dairy products (excluding cheeses) - dairy desserts - frozen - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	18	0			18	0	0
Dairy products (excluding cheeses) - dairy desserts - frozen - at retail - imported - Surveillance - official controls	SVFI	Batch	10 g	9	0			9	0	0
Dairy products (excluding cheeses) - dairy products, not specified - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	3	0	3	0			
Dairy products (excluding cheeses) - dairy products, not specified - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	1	0			1	0	0
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - Surveillance - official controls	SVFI	Batch	10 g, 25 g	40	0	38	0	2	0	0
Dairy products (excluding cheeses) - fermented dairy products - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	93	0			93	0	0

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Dairy products (excluding cheeses) - fermented dairy products - at retail - imported - Surveillance - official controls	SVFI	Batch	10 g	9	0			9	0	0
Dairy products (excluding cheeses) - ice-cream - at retail - domestic production - Surveillance - official controls	PHA	Single	10 g	86	0	84	0	2	0	0
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance - official controls	SVFI	Batch	10 g, 25 g	11	0	10	0	1	0	0
Dairy products (excluding cheeses) - milk powder and whey powder - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	5	0			5	0	0
Dairy products (excluding cheeses) - yoghurt - at retail - domestic production - Surveillance - official controls	PHA	Single	25 g	10	0	5	0	5	0	0
Infant formula - dried - at retail - Surveillance - official controls	PHA	Single	25 g	423	0	423	0			
Milk, cows' - UHT milk - at processing plant - Surveillance - official controls	SVFI	Batch	25 ml	3	0	3	0			
Milk, cows' - UHT milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 ml	27	0			27	0	0
Milk, cows' - UHT milk - at retail - imported - Surveillance - official controls	SVFI	Batch	10 ml	6	0			6	0	0
Milk, cows' - pasteurised milk - at processing plant - Surveillance - official controls	SVFI	Batch	10 ml, 25 ml	20	0	17	0	3	0	0

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Milk, cows' - pasteurised milk - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 ml, 25 ml	31	0			31	0	0
Milk, cows' - raw - at farm - animal sample - milk - Monitoring - official sampling	SVFI	Single	10 ml, 25 ml	285	10	283	10	2	0	0
Milk, cows' - raw - intended for direct human consumption - at retail - domestic production - Surveillance - official controls	PHA	Batch	25 ml	10	0	10	0	10	0	0
Milk, goats' - pasteurised - at retail - domestic production - Surveillance - official controls	SVFI	Single	10 ml	1	0			1	0	0
Milk, sheep's - raw - at farm - animal sample - milk - Surveillance - official controls	SVFI	Single	25 ml	1	0	1	0			

Table Listeria monocytogenes in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Bakery products - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	1	0	1	0			
Beverages, non-alcoholic - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	3	0			3	0	0
Fish - smoked - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	6	0			6	0	0
Fishery products, unspecified - at processing plant - Surveillance - official controls	SVFI	Batch	10 g, 25 g	28	3	22	3	6	0	0
Fishery products, unspecified - at retail - domestic production - Surveillance - official controls	PHA, SVFI	Batch	10 g, 25 g	210	0	186	0	204	0	0
Fishery products, unspecified - at retail - imported - Surveillance - official controls	SVFI	Batch	10 g	5	0			5	0	0
Fruits and vegetables - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	11	2	11	2			
Fruits and vegetables - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	1	1			1	1	0
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance - official controls	SVFI	Single	25 g	1	0	1	0			
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	40	0	40	0			
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	35	0			35	0	0

Table Listeria monocytogenes in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	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 retail - imported - Surveillance - official controls	SVFI	Batch	10 g	8	0			8	0	0
Meat from horse - meat products - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	1	0			1	0	0
Meat from pig - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	24	1			24	0	1
Meat from pig - fresh - at processing plant - Surveillance - official controls	SVFI	Batch	10 g, 25 g	20	0	16	0	4	0	0
Meat from pig - fresh - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g, 25 g	6	1	1	0	6	1	0
Meat from pig - fresh - at retail - imported - Surveillance - official controls	SVFI	Batch	10 g	4	0			4	0	0
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance - official controls	SVFI	Batch	10 g, 25 g	250	2	243	2	7	0	0
Meat from pig - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	79	2			79	0	2
Meat from pig - meat products - cooked, ready-to-eat - at retail - imported - Surveillance - official controls	SVFI	Batch	10 g	11	0			11	0	0
Meat from pig - minced meat - at processing plant - Surveillance - official controls	SVFI	Batch	10 g	1	0			1	0	0

Table Listeria monocytogenes in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from turkey - meat products - cooked, ready-to-eat - at processing plant - Surveillance - official controls	SVFI	Batch	10 g	1	0			1	0	0
Meat from turkey - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	10	0			10	0	0
Meat, mixed meat - meat products - cooked, ready-to-eat - at processing plant - Surveillance - official controls	SVFI	Batch	10 g, 25 g	261	4	249	4	12	0	0
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g, 25 g	93	0	1	0	92	0	0
Meat, mixed meat - meat products - fermented sausages - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	21	1	21	1			
Meat, mixed meat - meat products - fermented sausages - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	33	0			33	0	0
Nuts and nut products - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	3	0			3	0	0
Nuts and nut products - at retail - imported - Surveillance - official controls	SVFI	Batch	10 g	2	0			2	0	0
Other food of non-animal origin - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	3	0	3	0			
Other processed food products and prepared dishes - at processing plant - Surveillance - official controls	PHA, SVFI	Batch	10 g, 25 g	88	2	86	2	2	0	0

Table Listeria monocytogenes in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Other processed food products and prepared dishes - at retail - domestic production - Surveillance - official controls	PHA	Batch	10 g, 25 g	1058	11	1048	10	452	2	0
Other processed food products and prepared dishes - sandwiches - at processing plant - Surveillance - official controls	PHA	Batch	25 g	69	0	69	0			
Other processed food products and prepared dishes - sandwiches - at retail - domestic production - Surveillance - official controls	PHA	Batch	10 g, 25 g	125	1	113	1	72	0	0
Ready-to-eat salads - at catering - Surveillance - official controls	PHA	Batch	10 g, 25 g	6	0	6	0			
Ready-to-eat salads - at retail - domestic production - Surveillance - official controls	PHA	Batch	10 g, 25 g	99	2	89	2	65	0	0
Seeds, sprouted - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	2	0	2	0			
Spices and herbs - at processing plant - Surveillance - official controls	SVFI	Batch	25 g	7	0	7	0			
Spices and herbs - at retail - domestic production - Surveillance - official controls	SVFI	Batch	10 g	8	0			8	0	0

2.3.4 Listeria in animals

Table Listeria in animals

	Source of information	Sampling unit	Units tested	Total units positive for Listeria	L. monocytogenes	Listeria spp., unspecified
Cattle (bovine animals) - at farm - animal sample - blood - Clinical investigations	SVI, SVFI	Animal	26	1	1	
Cattle (bovine animals) - at farm - animal sample - foetus/stillbirth - Control and eradication programmes - official sampling	SVI, SVFI	Animal	428	18	14	4
Cattle (bovine animals) - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	85	1	1	
Dogs - at farm - animal sample - blood - Clinical investigations	SVI, SVFI	Animal	3	0		
Goats - at farm - animal sample - blood - Clinical investigations	SVI, SVFI	Animal	2	0		
Goats - at farm - animal sample - foetus/stillbirth - Control and eradication programmes - official sampling	SVI, SVFI	Animal	2	0		
Pigs - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	26	0		
Sheep - at farm - animal sample - blood - Clinical investigations	SVI, SVFI	Animal	103	19	9	10
Sheep - at farm - animal sample - foetus/stillbirth - Control and eradication programmes - official sampling	SVI, SVFI	Animal	129	4	3	1
Sheep - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	122	12	7	5

Table Listeria in animals

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

A. Verotoxigenic Escherichia coli infections general evaluation

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

The monitoring system for Verotoxigenic E.coli in the Slovak republic has not been adopted. In 2010 were no samples planned to taken for E. coli in foodstuffs. Some samples of raw cow´s milk from automatic machines were tested within target controls also for presence of E.coli O157 and genes responsible for toxin production.

Foodstuffs
A total 338 samples were examined for presence of VTEC. In 1 samples of bovine meat was detected E.coli O157 and intimin eae but no genes responsible for toxin production.

Diagnostical method used : cultivation, VIDAS

2.4.2 Escherichia coli, pathogenic in foodstuffs

Table VT E. coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Cheeses, made from mixed milk from cows, sheep and/or goats - Surveillance - official controls	SVFI	Single	25 g	1	0			
Dairy products (excluding cheeses) - Surveillance - official controls	SVFI	Single	25 ml	1	0			
Meat from bovine animals - fresh - Surveillance - official controls	SVFI	Single	25 g	1	1	1		
Milk, cows' - raw - at farm - Surveillance - official controls	SVFI	Single	25 ml	319	0			

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. Because this disease is "obligatory notifiable", it is possible to become acquainted yearly from OIE statistics with the incidence in bovine 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 2010 there were investigated 19 samples of lymphonodes and parenchymal organs. From these samples 12 of them were taken from cattle, 6 from pigs and one sample from capricorn. Samples from cattle and pigs were taken at slaughterhouses. Sample from capricorn was taken at farm from dead animal. The samples sent for investigation were taken from animals which shown pathological changes during inspection at slaughterhouse or during pathological-anatomy necropsy or in case of positive reagents.
From all investigated samples 1 sample in pigs was positive, typized as PPEM (potentially pathogenic environmental mycobacteria).

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

In cattle
A) Single intradermal tuberculin test by mammalian tuberculin :
Examine
-once per year 33% of holdings in the district - all cattle over 24 months of age
-once per year new holding registered in 2010 – all cattle over 24 month
-once per year all animals over 24 months of age from all small holdings (farms of physical persons, who farm bovine animals for their own charge and do not introduce their products into the market)
-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

In pigs
1. Single intradermal tuberculin test by avian tuberculin:
-in holding, in case of evidence of a significant changes indicating tuberculosis within post mortem inspection (suspicion of the tuberculosis)
-once per year breeding boars in insemination centre, tests should be performed up to 12 months since the last examination.
-in holdings with positive microbiological finding of M. avium and in the case of staff tuberculosis affection, immediately-in the case if minimum 6 weeks elapsed after the last tuberculination
2. Bacteriologic investigation in case of
-slaughtering of positive reactors
-looking for source of infection
-significant changes indicating tuberculosis within post mortem inspection at slaughterhouse
Yearly is elaborated "surveillance of bovine and avian TBC in the SR for the respective year", together with human service, epidemiological analysis of the incidence and prevalence of TBC occurrence in humans.

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 tuberculine test are examined by comparative test earliest in 6-8 weeks, repeatedly positively reacted animals for bovine tuberculine are slaughtered and their lymphnodes are additionally examined laboratorily in the respective NRL for bovine tuberculosis. Tuberculosis changes identified in routine veterinary-hygnienic 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 slaugterhouses

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 CÂº, 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 33% of holdings in the district - all cattle over 24 months of age
-once per year new holding registered in 2010 – all cattle over 24 month
-once per year all animals over 24 months of age from all small holdings (farms of physical persons, who farm bovine animals for their own charge and do not introduce their products into the market)
-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

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.

Table Tuberculosis in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Mycobacterium	M. bovis	M. tuberculosis	Mycobacterium spp., unspecified	Mycobacterium, atypical
Capricorns - at farm - animal sample - Clinical investigations	SVFI	Animal	1	0				
Cattle (bovine animals) - at slaughterhouse - animal sample - lymph nodes - Clinical investigations	SVFI	Animal	12	0				
Pigs - at slaughterhouse - animal sample - lymph nodes - Clinical investigations [1)]	SVFI	Animal	6	1				1

Comments:

[1)] PPEM

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			
Banskobystrický kraj	3154	76702	3154	100	0	0	every three years	10268	0	0	0
Bratislavský kraj	89	14432	89	100	0	0	every three years	1140	0	0	0
Košický kraj	811	45316	811	100	0	0	every three years	6520	0	0	0
Nitriansky kraj	666	64747	666	100	0	0	every three years	10480	0	0	0
Prešovský kraj	1506	79263	1506	100	0	0	every three years	13414	0	0	0
Trenčiansky kraj	473	44599	473	100	0	0	every three years	6961	0	0	0
Trnavský kraj	513	77468	513	100	0	0	every three years	11253	0	0	0
Žilinský kraj	2628	62958	2628	100	0	0	every three years	4310	0	0	0
Total : [1)]	9840	465485	9840	100	0	0	N.A.	64346	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 2010“ continuous monitoring of epidemiological situation through monitoring of anibodies against Brucella abortus in holdings was carried out in 2010. 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.

2.6.2 Brucellosis in humans

A. Brucellosis in humans

Reporting system in place for the human cases

brucellosis is reported mandatory by physician and microbiological labs

Case definition

Clinical picture compatible with brucellosis, e.g. acute or insidious onset of fever, night sweats, undue fatigue, anorexia, weight loss, headache and arthralgia

Diagnostic/analytical methods used

demonstration on specific antibody response, demonstration by immunoflorescence of Brucella sp. In a clinical specimen
Isolation of Brucella species from a clinical specimen

Additional information

For a probable case:
A single high titre

2.6.3 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 33% of holdings in the district - all animals over 24 months of age
-once per year all bovine animals over 24 months of age from all small holdings (farms of physical persons, who farm bovine animals for their own charge and do not introduce their products into the market)
-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 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 2010“. 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-aglutination 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

-once per year 33% of holdings in the district - all cattle over 24 months of age
-once per year new holding registered in 2010 – all cattle over 24 month
-once per year breeding bulls in insemination centre and young bulls before the basic selection, tests

should be performed up to 12 months since the last examination.
-in case of undiscriminated examinations in quarantine, feminine animals over 12 months of age intended for breeding and production and breeding bulls over 12 months of age (except slaughter) from third countries and brucelosis non-free member states.
- 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.
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.

Results of the investigation

Bacteriologically there were in cattle investigated 625 samples and serologically 69222 samples in 2010.
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 2010"
-blood samples of the animals in case of abort are tested two times in interval of 21 days

Type of specimen taken

Blood, feetus, 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 2010.“

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 2010, in goats there were investigated 8 samples bacteriologically and 755 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 2010"
-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

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 2010“.

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 2010, 263 samples from ewes were investigated bakteriologically and 23208 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 unit	Units tested	Total units positive for Brucella	B. abortus	B. melitensis	B. suis	Brucella spp., unspecified
Capricorns - at farm - animal sample - blood - Monitoring	SVI, SVFI	Animal	7	0				
Cats - at farm - animal sample - blood - Monitoring	SVI, SVFI	Animal	2	0				
Cats - at farm - animal sample - foetus/stillbirth - Monitoring	SVI, SVFI	Animal	1	0				
Cattle (bovine animals) - at farm - animal sample - blood - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	69222	0				
Cattle (bovine animals) - at farm - animal sample - foetus/stillbirth - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	625	0				
Deer - farmed - at farm - animal sample - blood - Monitoring	SVI, SVFI	Animal	68	0				
Dogs - at farm - animal sample - blood - Monitoring	SVI, SVFI	Animal	28	0				
Goats - at farm - animal sample - blood - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	755	0				
Goats - at farm - animal sample - foetus/stillbirth - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	8	0				
Hares - at farm - animal sample - blood - Monitoring	SVI, SVFI	Animal	61	0				

Table Brucellosis in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Brucella	B. abortus	B. melitensis	B. suis	Brucella spp., unspecified
Land game mammals - wild - from hunting - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	10	0				
Mouflons - at farm - animal sample - blood - Monitoring	SVI, SVFI	Animal	18	0				
Other animals - Monitoring	SVI, SVFI	Animal	29	0				
Pigs - at farm - animal sample - blood - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	2566	0				
Pigs - at farm - animal sample - foetus/stillbirth - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	142	0				
Sheep - at farm - animal sample - blood - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	23208	0				
Sheep - at farm - animal sample - foetus/stillbirth - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	263	0				
Solipeds, domestic - horses - at farm - animal sample - blood - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	104	0				
Solipeds, domestic - horses - at farm - animal sample - foetus/stillbirth - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	3	0				
Zoo animals, all - Monitoring	SVI, SVFI	Animal	12	0				

Table Brucellosis in other animals

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

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

Region	Total number of existing		Officially free herds		Infected herds		Surveillance			Investigations of suspect cases				
	Herds	Animals	Number of herds	%	Number of herds	%	Number of herds tested	Number of animals tested	Number of infected herds	Number of animals tested with serological blood tests	Number of animals positive serologically	Number of animals examined microbio logically	Number of animals positive microbio logically	Number of suspended herds
Banskobystrický kraj	1020	129867	1020	100	0	0	723	6359	0	69	0	1	0	0
Bratislavský kraj	26	800	26	100	0	0	12	37	0	0	0	0	0	0
Košický kraj	352	50874	352	100	0	0	352	2761	0	0	0	0	0	0
Nitriansky kraj	208	10620	208	100	0	0	117	628	0	0	0	0	0	0
Prešovský kraj	485	81020	485	100	0	0	444	4929	0	29	0	69	0	0
Trenčiansky kraj	169	33105	169	100	0	0	162	2009	0	4	0	3	0	0
Trnavský kraj	80	2636	80	100	0	0	55	289	0	50	0	2	0	0
Žilinský kraj	1129	95980	1129	100	0	0	1129	5997	0	32	0	5	0	0
Total : [1)]	3469	404902	3469	100	0	0	2994	23009	0	184	0	80	0	0

Comments:

[1)] N.A.

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

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance						Investigations of suspect cases								
							Serological tests			Examination of bulk milk			Information about			Epidemiological investigation					
	Herds	Animals	Number of herds	%	Number of herds	%	Number of bovine herds tested	Number of animals tested	Number of infected herds	Number of bovine herds tested	Number of animals or pools tested	Number of infected herds	Number of notified abortions whatever cause	Number of isolations of Brucella infection	Number of abortions due to Brucella abortus	Number of animals tested with serological blood tests	Number of suspended herds	Number of positive animals		Number of animals examined microbio logically	Number of animals positive microbio logically
																		Sero logically	BST		
Banskobystrický kraj	3154	76705	3154	100	0	0	772	10250	0	0	0	0	373	0	0	373	0	0	0	9	0
Bratislavský kraj	89	14432	89	100	0	0	10	1035	0	0	0	0	108	0	0	108	0	0	0	3	0
Košický kraj	811	45316	811	100	0	0	114	7475	0	0	0	0	240	0	0	240	0	0	0	28	0
Nitriansky kraj	666	64747	666	100	0	0	134	10030	0	0	0	0	231	0	0	231	0	0	0	22	0
Prešovský kraj	1506	79263	1506	100	0	0	311	13423	0	0	0	0	466	0	0	466	0	0	0	164	0
Trenčiansky kraj	473	44599	473	100	0	0	103	7025	0	0	0	0	93	0	0	93	0	0	0	12	0
Trnavský kraj	513	77468	513	100	0	0	79	11253	0	0	0	0	431	0	0	431	0	0	0	76	0
Žilinský kraj	2628	62955	2628	100	0	0	593	4310	0	0	0	0	235	0	0	235	0	0	0	17	0
Total : [1)]	9840	465485	9840	100	0	0	2116	64801	0	0	0	0	2177	0	0	2177	0	0	0	331	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.

Yersinia spp. in animals
In 2009 there were investigated 411 animals in case of suspicion on yersiniosis. Mostly foeces and organs were sampled with no positive finding of Yersinia spp.

Diagnostical method used: STN EN ISO 10273 (560099)

2.7.2 Yersinia in animals

Table Yersinia in animals

	Source of information	Sampling unit	Units tested	Total units positive for Yersinia	Y. enterocolitica	Y. pseudotuberculosis	Yersinia spp., unspecified	Y. enterocolitica - O:3	Y. enterocolitica - O:9	Y. enterocolitica - Y. enterocolitica, unspecified
Cats - pet animals - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	14	0						
Cats - pet animals - at farm - animal sample - mucosal swab - Clinical investigations	SVI, SVFI	Animal	3	0						
Cats - pet animals - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	2	0						
Dogs - pet animals - at farm - animal sample - faeces - Clinical investigations	SVI, SVFI	Animal	48	0						
Dogs - pet animals - at farm - animal sample - mucosal swab - Clinical investigations	SVI, SVFI	Animal	12	0						
Dogs - pet animals - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	11	0						
Pigs - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	14	0						
Pigs - fattening pigs - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	12	0						

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, eosinofilia 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 board population in 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 trichinallae could not get into foodstuffs intended for human consumption.

Endemic areas of trichinellosis occurrence are East and Central Slovakia. In West Slovakia only rare occurance 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 2010, except obligatory meat inspection and examination according Commission Regulation 2075/2005 also monitoring of trichinellosis in foxes was performed. Totally 825173 samples from susceptible animals were investigated for presence of Trichinella spp. with positive findings in 33 wildlife animals. In all 21 positive foxes was detected T. britovi, in 1 positive bear and 11 positive wild boars was Trichinella unspecified.

In 2009, in the Slovak Republic, 166 410 susceptible animals were examined for the presence of larvae of Trichinella spp. of which 17 wildlife were positive. In all positive cases T. britovi was detected. In wildlife, Trichinella britovi was found in wild boars and foxes.

In 2008, 1,137,235 susceptible animals, of which 4 were positive, were examined for the presence of larvae of Trichinella spp. in the Slovak Republic. It was investigated 1 124 256 samples of domestic pigs. Two pigs with positive results in 2008 came from Roznava. One of them was killed in shambles and domestic consumption of insufficiently cooked and processed meat products had caused disease in humans.

In the year 2007 was no positive finding of Trichinella spp. in slaughtered pigs. From wild animals was found 2 x T. britovi in two wild boars from all investigated. It presents 0.01% of positive samples. In comparison with previous year is the decline in the number of positive wild boar – in 2007 the percentage was 0.04%. In positive cases predominate Trichinella britovi.

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 diapraghma 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 2010, 4 samples in horses with negative results 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.

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 diaphraghm 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.

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 2010 there were totally investigated 797830 pigs from slaughterhouses and 195 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 unit	Units tested	Total units positive for Trichinella	T. spiralis	Trichinella spp., unspecified	T. britovi
Solipeds, domestic	DVFA	Animal	4	0			
Badgers - wild - from hunting - Monitoring	SVI, SVFI	Animal	1	0			
Bears - wild - from hunting - Monitoring	SVI, SVFI	Animal	37	1		1	
Foxes - wild - from hunting - Monitoring - official sampling - selective sampling	SVI, SVFI	Animal	211	21			21
Pigs - at farm - animal sample - Monitoring - official sampling - selective sampling (home slaughters)	SVI, SVFI	Animal	195	0			
Pigs - at slaughterhouse - animal sample - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	797830	0			
Wild boars - wild - from hunting - Monitoring - official sampling - objective sampling	SVI, SVFI	Animal	26895	11		11	

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

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

In 2010, 1446 animals were investigated for presence of Echinococcus spp with no positive finding.
In 2009, 1876 animals were investigated for presence of adult Echinococci and evolutionary stages, with no positive finding. Except laboratory examinations also findings of larvocysts were reported within post-mortem inspection. In sheep, 25 larvocyst were identified, in cattle, 3 larvocysts and in pigs, 73 larvocysts. These positive findings didn´t confirmed by laboratory examination.
In 2008 there were examined 997 624 animals in the Slovak Republic for the presence of adult Echinococcus spp. and evolutionary stages, of which 181 were positive.
Larvocysts of echinococcus (E.granulosus) were detected in cattle, sheep, and goats and also in pigs. E.granulosus in cattle increased from 1 case in 2003 to 45 cases in 2004 and decreased to 21 cases in 2005. In 2007 there were only 2 cases and 4 cases in 2008 (0,005 %).
In sheep and goats totally 1951 cases were found out in 2003, in 2004 there were only 26 cases, in 2005 there were only 16 cases and in 2006 only 2 cases. In 2007 there was again an increase in the number of positive findings as much as 121 cases and in 2008 only 3 cases.
In pigs the number of positive cases decreases little by little from 1681 in 2003 to 1313 in 2004, in 2005 totally 537 cases and in 2007 only 336 cases were recorded (0,03 %).
In 2008 there were found 174 positive findings of Echinococcus spp. from 913 655 animals tested (0.02%).

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 Echinococcosis in humans

A. Echinococcus spp. in humans

Case definition

Clinical picture compatible with echinococcosis, which may produce any several clinical syndromes, varying with cyst size and location

Diagnostic/analytical methods used

Histopathologia

A combination of imaging techniques and serological tests(e.g. indirect haemaglutination, immunodiffusion, immunoblot assay

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

Sporadic or rare cases.

2.9.3 Echinococcus in animals

Table Echinococcus in animals

	Source of information	Sampling unit	Region	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis	Echinococcus spp., unspecified
Cats - pet animals - Survey	SVI, SVFI	Animal	Slovenská Republika	178	0			
Dogs - pet animals - Survey	SVI, SVFI	Animal	Slovenská Republika	1228	0			
Foxes - farmed - Survey	SVI, SVFI	Animal	Slovenská Republika	3	0			
Jaguar - zoo animals - at zoo - Survey	SVI, SVFI	Animal	Slovenská Republika	2	0			
Leopards - zoo animals - at zoo - Survey	SVI, SVFI	Animal	Slovenská Republika	2	0			
Lion - zoo animals - at zoo - Survey	SVI, SVFI	Animal	Slovenská Republika	4	0			
Lynx - zoo animal - at zoo - Survey	SVI, SVFI	Animal	Slovenská Republika	7	0			
Other carnivores - zoo animals - at zoo - Survey	SVI, SVFI	Animal	Slovenská Republika	4	0			
Pigs - at slaughterhouse - animal sample - Clinical investigations	SVI, SVFI	Animal	Slovenská Republika	4	0			
Raccoon dogs - Survey	SVI, SVFI	Animal	Slovenská Republika	2	0			
Sheep - at farm - animal sample - organ/tissue - Clinical investigations	SVI, SVFI	Animal	Slovenská Republika	1	0			
Tiger - zoo animals - at zoo - Survey	SVI, SVFI	Animal	Slovenská Republika	8	0			
Wild cat (Felis silvestris) - zoo animals - at zoo - Survey	SVI, SVFI	Animal	Slovenská Republika	1	0			
Wolves - zoo animal - at zoo - Survey	SVI, SVFI	Animal	Slovenská Republika	2	0			

Table Echinococcus in animals

2.10 TOXOPLASMOSIS

2.10.1 General evaluation of the national situation

A. Toxoplasmosis general evaluation

History of the disease and/or infection in the country

Since 2001, the percentage of infestation has increased and a considerable change in the pattern of samples has been recorded. In the past, most samples came from bovine and pig holdings, these categories of animals being gradually misplaced, resulting in a turnover in favour of testing pet animals and small ruminants.

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

In the Slovak Republic, there is no official monitoring program for diagnostics of toxoplasmosis and this zoonosis is not under notifiable diseases. The overview of epizootological situation enables to elaborate disease surveillance for the SR.

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. Direct evidence for the agent is supported by the PCR method; however the method is not routinely used in animal diagnostics.

In 2010 totally 301 samples were investigated for toxoplasmosis with positive reaction in 52 cases, it is 17,27% positivity. Out of 42,5% cat sera investigated was in 30,5% confirmed production of specific antibodies and in comparison with last year it is increased in 11%.

In 2009, 273 blood samples were investigated and 55 samples had positive reaction, in percentage 20,43%. Serums of cats represented the most of all samples, 139 samples (50,7%) with 19,4% seropositivity. In dogs, 95 blood samples (34,6%) were investigated with 18,9% seropositivity. Only 8% of samples came from cattle holdings with negative results. 6,5 % of all samples were from goats but with the highest percentage of all – 58,8%.

In comparison with previous years 2007 and 2008, number of samples investigated declined.

In 2008, there were investigated 362 samples for toxolasmosis in totall.

Samples from dogs presented 39%, from goats 37,5% and from cats 19,7% from total.

The highest positivity was found in dogs (40%), in goats (38%) and cats (20%).

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 unit	Units tested	Total units positive for Toxoplasma	T. gondii
Cats - Monitoring	SVI, SVFI	Animal	128	39	39
Cattle (bovine animals) - at farm - animal sample - blood - Monitoring	SVI, SVFI	Animal	3	0	
Deer - wild - fallow deer - from hunting - Monitoring	SVI, SVFI	Animal	23	4	4
Dogs - Monitoring	SVI, SVFI	Animal	78	8	8
Goats - at farm - animal sample - blood - Monitoring	SVI, SVFI	Animal	6	1	1
Hares - wild - from hunting - Monitoring	SVI, SVFI	Animal	61	0	
Solipeds, domestic - horses	SVI, SVFI	Animal	2	0	

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 2010, within Slovak Republic, 3304 animals were tested, without finding of positive units of lyssavirus. The highest number of samples came from foxes. Last positive findings of lyssavirus in foxes were in 4 foxes in 2006, a total 4241 animals were tested in 2006, in 2007 were investigated 4309 samples in 2008 there were tested 4009 samples and in 2009 it was 3708 samples. Amount of samples is in a downtrend.

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

the relevance in the first case is low (carnivores â€“ non-food animals) in the second case the animals present the main risk to human rabies

Recent actions taken to control the zoonoses

National programme of rabies eradication in the Slovak Republic,
mandatory vaccination in domestic carnivores as well as oral antirabic vaccination in wildlife red fox,
identification and registration of pets,
movement control,
Laboratory diagnosis of each suspected domestic animal and control of fulfilment of National programme by veterinary database.
Laboratory diagnostics within targeted hunting for effectiveness check of vaccine
Laboratory examination of hunted or dead animals with abnormal behaviour
Indicated preventive vaccination of cattle, sheep and goats in rabies outbreaks in wildlife animals before cattle-run

2.11.2 Rabies in humans

A. Rabies in humans

Reporting system in place for the human cases

Mandatory

Case definition

Rabies is an acute encephalomyelitis that almost always progress to coma or death within 10 days after the first symptom.

Diagnostic/analytical methods used

detection of direct fluorescent antibody of viral antigens in a clinical specimen
Detection of rabies nucleic acid in clinical specimen
Isolation of rabies virus from saliva, cerebrospinal fluid, or central nervous system tissue identification of a rabies-neutralising antibody titre in the serum or cerebrospinal fluid of an unvaccinated person

History of the disease and/or infection in the country

Disease is reported many years.

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

Last case was reported in 1990 after contact with fox

2.11.3 Lyssavirus (rabies) in animals

A. Rabies in dogs

Monitoring system

Sampling strategy

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. 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.
Sample must be identifiable also inside of the packing. Accompanying document is attached to the sample so as to prevent its contamination and at taking over the sample in approved veterinary laboratories it could be removed without handling the sample.

Diagnostics is carried out by the State Veterinary and Food Institutes. The State Veterinary Institute Zvolen is a reference laboratory of rabies.

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 2010, National programme of rabies eradication in the Slovak Republic in 2010 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 2010.

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 heath 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 Â§ 8, para 3, letter f) of the Act No. 488/2002 Coll. ll.
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 â€žCAUTION RABIES !â€
2.killing of susceptible animals which came into contact with an animal positive to the presence of rabies antigen,
3.to perform the registration of dogs and cats and protective vaccination of dogs, cats and other carnivore over 3 months of age which have not been vaccinated against rabies so far or since the last antirabic vaccination the period longer than 1 year elapsed, provided that they did not come into contact or they did not have the possibility to come into contact with an animal positive to the presence of rabies antigen,
4. to perform protective vaccination of susceptible domestic animals; it will permit to use milk and other products obtained from them for the human consumption and feeding purposes only following gaining the immunity (this period will be stated based on the date of vaccine manufacturer).

Notification system in place

Based on the Act No. 39/2007 Coll. ll. 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.

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.

In 2010 there was no case of rabies detected in the Slovak Republic.

Table Rabies in animals

	Source of information	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Lyssavirus, unspecified	Classical rabies virus (genotype 1)	European Bat Lyssavirus - unspecified
Badgers - wild - Monitoring	SVI, SVFI	Animal	Slovenská Republika	5	0			
Bats - wild - Monitoring	SVI, SVFI	Animal	Slovenská Republika	4	0			
Cats - Monitoring	SVI, SVFI	Animal	Slovenská Republika	139	0			
Cattle (bovine animals) - at farm - animal sample - organ/tissue - Monitoring	SVI, SVFI	Animal	Slovenská Republika	2	0			
Deer - wild - red deer - Monitoring	SVI, SVFI	Animal	Slovenská Republika	2	0			
Deer - wild - roe deer - Monitoring	SVI, SVFI	Animal	Slovenská Republika	4	0			
Dogs - Monitoring	SVI, SVFI	Animal	Slovenská Republika	185	0			
Foxes - wild - Monitoring	SVI, SVFI	Animal	Slovenská Republika	159	0			
Foxes - wild - Monitoring - official sampling - selective sampling	SVI, SVFI	Animal	Slovenská Republika	2763	0			
Hedgehogs - wild - Monitoring	SVI, SVFI	Animal	Slovenská Republika	1	0			
Marten - wild - Monitoring	SVI, SVFI	Animal	Slovenská Republika	7	0			
Other animals - Monitoring	SVI, SVFI	Animal	Slovenská Republika	2	0			
Other animals - wild - Monitoring	SVI, SVFI	Animal	Slovenská Republika	4	0			
Rabbits - Monitoring	SVI, SVFI	Animal	Slovenská Republika	1	0			
Rats - wild - Monitoring	SVI, SVFI	Animal	Slovenská Republika	7	0			
Rodents - pet animal - Monitoring	SVI, SVFI	Animal	Slovenská Republika	9	0			

Table Rabies in animals

	Source of information	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Lyssavirus, unspecified	Classical rabies virus (genotype 1)	European Bat Lyssavirus - unspecified
Sheep - at farm - animal sample - organ/tissue - Monitoring	SVI, SVFI	Animal	Slovenská Republika	2	0			
Squirrels - wild - Monitoring	SVI, SVFI	Animal	Slovenská Republika	1	0			
Weasel - Monitoring	SVI, SVFI	Animal	Slovenská Republika	1	0			
Wild boars - wild - Monitoring	SVI, SVFI	Animal	Slovenská Republika	5	0			
Wild cat (Felis silvestris) - wild - Monitoring	SVI, SVFI	Animal	Slovenská Republika	1	0			

2.12 STAPHYLOCOCCUS INFECTION

2.12.1 General evaluation of the national situation

2.13 Q-FEVER

2.13.1 General evaluation of the national situation

A. Coxiella burnetii (Q-fever) general evaluation

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

Samples were taken:
- once a year within the framework of „Plan of veterinary prevention and protection of state territory in 2010“ in dairy cows producing raw milk for direct consumption
- 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

Diagnostic/analytical methods used

serological: CFT

Table Coxiella burnetii (Q fever) in animals

	Source of information	Sampling unit	Units tested	Total units positive for Coxiella (Q-fever)	C. burnetii
Cattle (bovine animals)	SVI, SVFI	Animal	2889	302	302
Goats	SVI, SVFI	Animal	59	1	1
Sheep	SVI, SVFI	Animal	50	0	
Cats	SVI, SVFI	Animal	2	0	
Other animals	SVI, SVFI	Animal	1	0	
Solipeds, domestic - horses	SVI, SVFI	Animal	23	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 unit	Sample weight	Units tested	Total units positive for Anisakis	A. simplex	Anisakis spp., unspecified
Fish - at retail - imported - Clinical investigations	SVFI, SVI	Single		2	1	1	
Fish - at retail - imported - Monitoring - official sampling	SVFI, SVI	Single		17	1		1

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

3.1.2 Antimicrobial resistance in Escherichia coli, non-pathogenic

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

Test Method Used	Standard methods used for testing

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Cephalosporins	Cefotaxim		0.25	
Penicillins	Ampicillin		8	

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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	Streptomycin		512	
	Gentamicin		32	
Amphenicols	Chloramphenicol		32	
Penicillins	Ampicillin		4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Oxazolidines	Linezolid		4	

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 ENTEROBACTER SAKAZAKII

4.1.1 General evaluation of the national situation

4.1.2 Enterobacter sakazakii 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 acredited 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 unit	Sample weight	Units tested	Total units positive for Enterobacter sakazakii	E. sakazakii
Infant formula - dried - at retail - Surveillance - official controls	PHA	Single	10 g	285	0	
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance - official controls	PHA	Single	10 g	135	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 2010, 36 samples investigated with one sample over limit 100 mg/kg
In 2009, 45 samples investigated without finding over limit.
In 2008 there were investigated 75 samples of fish products for presence of histamine. 74 samples were conform and 1 of matjes was over limit 100 mg/kg.

Table Histamine in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units in non-conformity	<= 100 mg/kg	>100 - <= 200 mg/kg	>200 - <= 400 mg/kg	> 400 mg/kg
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at processing plant - domestic production - Monitoring - official sampling	SVFI	Batch	10 g	19	0	19			
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at retail - domestic production - Monitoring - official sampling	SVFI	Batch	10 g	6	0	6			
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at retail - imported - Monitoring - official sampling	SVFI	Batch	10 g	7	1	6	1		
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at processing plant - domestic production - Surveillance - official controls	SVFI	Batch	10 g	4	0	4			

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 2010, 232 samples of foodstuffs were investigated for staphylococcal enterotxins with positive results in 13 samples. The most positive samples were detectes in confectionery and other processed food and dishes.

In 2009, 20 samples of cheeses, mostly soft and semi-soft cheeses made from shep milk, were invwstigated on presence of staphylococcal enterotoxin with positive results in 2 samples.
In other food, 3 samples of confectionery, processed food and dishes were positive from 23 samples investigated.

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

The risk of occurrence is low, in rare cases.

Table Staphylococcal enterotoxins in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls	SVFI	Batch	10 g	1	0
Cheeses made from cows' milk - soft and semi-soft - at catering - Surveillance - official controls	PHA	Single	25g	1	0
Cheeses made from cows' milk - soft and semi-soft - at processing plant - domestic production	SVFI	Batch	10 g	2	0
Cheeses made from cows' milk - soft and semi-soft - at processing plant - domestic production - Surveillance - official controls	SVFI	Batch	10 g, 25 g	6	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance - official controls	SVFI	Batch	10 g, 25 g	164	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Monitoring - official sampling	PHA	Single	10 g	2	1
Cheeses, made from mixed milk from cows, sheep and/or goats - soft and semi-soft - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls	SVFI	Batch	25 g	4	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 - domestic production - Surveillance - official controls	SVFI	Batch	10 g	19	1

Table Staphylococcal enterotoxins in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Confectionery products and pastes - at retail - domestic production - Surveillance - official controls	PHA	Single	10 g	2	0
Dairy products (excluding cheeses) - at processing plant - domestic production - Surveillance - official controls	SVFI	Single	10 ml	1	0
Fishery products, unspecified - at retail - domestic production - Surveillance - official controls	SVFI	Single	10 g	1	0
Meat from poultry, unspecified - at retail - domestic production - Surveillance - official controls	SVFI	Single	10 g	1	0
Milk, cows' - raw - at retail - domestic production - Surveillance - official controls	PHA	Batch	10 ml	5	0
Other processed food products and prepared dishes - at catering - Surveillance - official controls	PHA	Batch	10 g, 25 g	11	5
Other processed food products and prepared dishes - at retail - domestic production - Surveillance - official controls	PHA	Batch	10 g	5	1
Other processed food products and prepared dishes - ices and similar frozen desserts - at retail - domestic production - Surveillance - official controls	PHA	Single	10 g	1	1
Other processed food products and prepared dishes - noodles - at retail - domestic production - Surveillance - official controls	PHA	Single	10 g	1	0

Table Staphylococcal enterotoxins in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Other processed food products and prepared dishes - sandwiches - with meat - at catering - Surveillance - official controls	PHA	Single	10 g, 25 g	4	3
Other processed food products and prepared dishes - unspecified - at retail - domestic production - Surveillance - official controls	PHA	Single	10 g	1	1

5. FOODBORNE

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

A. Foodborne outbreaks

System in place for identification, epidemological 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 epidemics: small epidemics included family and small local outbreaks (2-9 cases) and general outbreaks (10 and more cases).
All verified with strong evidence and possible with weak evidence of foodborne outbreaks are reported.

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

In 2010 there were recorded 487 outbreaks with 2661 cases. From 487 outbreaks, there were 20 verified outbreaks with strong evidence – 4,1% (total cases 262).
From all numbers of cases in ourbreaks: salmonellosis – 41,6% cases, unknown causative agent – 44,1% cases, campylobacteriosis 11,6% cases, other agents 1,1%, Viral hepatitis A 1,4% a Staphylococcal enterotoxin 0,2%.
From all number of outbreaks: salmonelosis – 57,3%, campylobacteriosis 20%, unknown causative agent 21,8%, other causative agent 0,4%, stafylococcal enterotoxin 0,2% and viral hepatitis A 0,2%.

Outbreaks of salmonellosis: Trend is decreased. There were reported 241 small outbreaks (1-9 cases in one outbreak) included family outbreaks, when were affected 791 persons and 18 general outbreaks (10 to 47 in one outbreak), when were affected 315 persons.

Outbreaks of campylobacteriosis: In 2010 there were recorded 98 outbreaks, when were affected 309 persons. There were reported 96 small mostly family outbreaks when were affected 289 persons a 2 genaral outbreaks (20 cases).Trend is increased.

Outbreak with unknow agent: 106 epidemics were reported when were affected 1174 persons. Trend is stabile.

Staphylococcus enterotoxin: 1 small outbreak, 6 persons, within these epidemic were recorded.

Food born viruses: There were reported 1 outbreak of viral hepatitis A in year 2010.Drinking water from privat well was 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 (5%). The most risky are finished foodstuff from raw eggs.
Foodborne outbreaks caused by Campylobacter have increased trend. The most risky are foods from chicken, turky and non-pasteurized cow and sheepmilk and cheese.

Relevance of the different type of places of food production and preparation in outbreaks

Salmonella enteritidis – mainly households (family celebrations), canteens and school canteens

Unknow 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 death cases were recorded. In all 487 outbreaks were reported 2661 cases from this 578 cases were hospitalized (21,7%).

Descriptions of single outbreaks of special interest

Outbreaks of special interest was not reported during year 2010.

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

In regard of occurance of salmonelosis and campylobacteriosis especially in households we suggest increase of healthy aware by all type off media way.

Table Foodborne Outbreaks: summarised data

	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Salmonella - S. Typhimurium	15	61	13	0	0	15
Salmonella - S. Enteritidis	175	564	164	0	17	192
Salmonella - Other serovars	72	251	29	0	0	72
Campylobacter	96	289	28	0	2	98
Listeria - Listeria monocytogenes	0	unknown	unknown	unknown	0	0
Listeria - Other Listeria	0	unknown	unknown	unknown	0	0
Yersinia	0	unknown	unknown	unknown	0	0
Escherichia coli, pathogenic -	0	unknown	unknown	unknown	0	0
Bacillus - B. cereus	0	unknown	unknown	unknown	0	0
Bacillus - Other Bacillus	0	unknown	unknown	unknown	0	0
Staphylococcal enterotoxins	0	unknown	unknown	unknown	1	1
Clostridium - Cl. botulinum	0	unknown	unknown	unknown	0	0
Clostridium - Cl. perfringens	0	unknown	unknown	unknown	0	0
Clostridium - Other Clostridia	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Brucella	0	unknown	unknown	unknown	0	0

	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Other Bacterial agents - Shigella	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Other Bacterial	0	unknown	unknown	unknown	0	0
Parasites - Trichinella	0	unknown	unknown	unknown	0	0
Parasites - Giardia	0	unknown	unknown	unknown	0	0
Parasites - Cryptosporidium	0	unknown	unknown	unknown	0	0
Parasites - Anisakis	0	unknown	unknown	unknown	0	0
Parasites - Other Parasites	0	unknown	unknown	unknown	0	0
Viruses - Norovirus	0	unknown	unknown	unknown	0	0
Viruses - Hepatitis viruses	1	37	37	0	0	1
Viruses - Other Viruses	0	unknown	unknown	unknown	0	0
Other agents - Histamine	0	unknown	unknown	unknown	0	0
Other agents - Marine biotoxins	0	unknown	unknown	unknown	0	0
Other agents - Other Agents	2	29	0	0	0	2
Unknown agent	106	1174	242	0	0	106

Table Foodborne Outbreaks: detailed data for Campylobacter

Please use CTRL for multiple selection fields

C. jejuni

	Value
FBO Code	A045
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Milk
More food vehicle information	non-pasterised cow´s milk from automatic machine
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Farm (primary production)
Place of origin of problem	Farm (primary production)
Origin of food vehicle	Domestic market
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

C. jejuni

	Value
FBO Code	A045
Number of outbreaks	1
Number of human cases	14
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Cheese
More food vehicle information	hand-made cheese
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Farm (primary production)
Origin of food vehicle	Domestic market
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Salmonella

Please use CTRL for multiple selection fields

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	12
Number of hospitalisations	5
Number of deaths	0
Food vehicle	Broiler meat (Gallus gallus) and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
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	Infected food handler
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Canteen or workplace catering
Origin of food vehicle	Domestic market
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	4
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	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	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	31
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Mixed or buffet meals
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	Canteen or workplace catering
Place of origin of problem	Canteen or workplace catering
Origin of food vehicle	Domestic market
Contributory factors	Cross-contamination;Storage time/temperature abuse
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	18
Number of hospitalisations	5
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Canteen or workplace catering
Origin of food vehicle	Domestic market
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive 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 chilling
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	22
Number of hospitalisations	8
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 chilling
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Household / domestic kitchen
Place of origin of problem	Household / domestic kitchen
Origin of food vehicle	Domestic market
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	24
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Dairy products (other than cheeses)
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Canteen or workplace catering
Origin of food vehicle	Domestic market
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	5
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Canteen or workplace catering
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	A020
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive 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	A020
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Household / domestic kitchen
Place of origin of problem	Household / domestic kitchen
Origin of food vehicle	Domestic market
Contributory factors	Cross-contamination
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	47
Number of hospitalisations	12
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Household / domestic kitchen
Place of origin of problem	Household / domestic kitchen
Origin of food vehicle	Domestic market
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	16
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Canteen or workplace catering
Origin of food vehicle	Domestic market
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	9
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Mixed or buffet meals
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	Canteen or workplace catering
Place of origin of problem	Canteen or workplace catering
Origin of food vehicle	Domestic market
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Turkey meat and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Canteen or workplace catering
Origin of food vehicle	Domestic market
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	A020
Number of outbreaks	1
Number of human cases	14
Number of hospitalisations	4
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	Eggs and egg products, Broiler meat (Gallus Gallus) and products thereof
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Canteen or workplace catering
Origin of food vehicle	Domestic market
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Staphylococcal enterotoxins

Please use CTRL for multiple selection fields

Enterotoxin, unspecified

	Value
FBO Code	A050
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Pig meat and products thereof
More food vehicle information	Gyros
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	Mobile retailer, market/street vendor
Place of origin of problem	Mobile retailer, market/street vendor
Origin of food vehicle	Domestic market
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	