European Food Safety Authority

ZOONOSES MONITORING

LITHUANIA

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

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

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

IN 2011

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Lithuania

Reporting Year: 2011

Laboratory name	Description	Contribution
State Food and Veterinary Service	State Food and Veterinary Service	Main data
Center for Communicable Diseases and AIDS	Center for Communicable Diseases and AIDS	Outbraeks data
National Food and Veterinary Risk Assessment Institute	National Food and veterinary Risk Assessment Institute Laboratory department	Main data

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 Lithuania during the year 2011 .

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

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

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

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

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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.

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)	meat production animals	77615				328352			
	mixed herds	9806				342099			
	- in total	87421		170591		670451			
Ducks	mixed flocks/holdings	119		17181		3634		1	
	- in total	119		17181		3634		1	
Gallus gallus (fowl)	breeding flocks, unspecified - in total	65				362100		13	
	laying hens	127				2844500		26	
	broilers	272				7250000		41	
	- in total	464		40514865		10456600		80	
Geese	mixed flocks/holdings	109				2505			
	- in total	109				2505			
Goats	mixed herds	3072				6688			
	- in total	3072				6688			

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*
Pigs	mixed herds	5539		770395		518459			
	- in total	5539		770395		518459			
Sheep	mixed herds	4705		5350		60994			
	- in total	4705		5350		60994			
Solipeds, domestic	horses - in total	6559		1939		14191			
Turkeys	meat production flocks	46		483827		451700		19	
	- in total	46		483827		451700		19	
Wild boars	farmed - in total	33				228			

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

2.1.2 Salmonella in foodstuffs

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from broilers (Gallus gallus) - fresh - chilled - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	35	2	2	
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at retail - domestic production - Control and eradication programmes [1)]	NFVRAI	Suspect sampling	Official sampling	food sample		Batch	25 g	20	2	2	

	Salmonella spp., unspecified
Meat from broilers (Gallus gallus) - fresh - chilled - at retail - Control and eradication programmes	
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at retail - domestic production - Control and eradication programmes [1)]	

Table Salmonella in poultry meat and products thereof

Comments:

[1)] Kebab with poultry meat

Table Salmonella in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Eggs - table eggs - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g	38	0		

	Salmonella spp., unspecified
Eggs - table eggs - at retail - Control and eradication programmes	

Table Salmonella in red meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from bovine animals - carcase - chilled - at slaughterhouse - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample > meat		Batch	25 g	31	0		
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at retail - domestic production - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample		Batch	10 g	6	1	1	
Meat from other animal species or not specified - minced meat - intended to be eaten cooked - chilled - at retail - domestic production - Control and eradication programmes [1)]	NFVRAI	Objective sampling	Official sampling	food sample > meat		Batch	10 g	15	2		1
Meat from pig - carcase - chilled - at slaughterhouse - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	11	0		
Meat from pig - minced meat - intended to be eaten cooked - at retail - domestic production - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample		Batch	10 g	5	0		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g	46	0		

Table Salmonella in red meat and products thereof

	Salmonella spp., unspecified	S. Derby
Meat from bovine animals - carcase - chilled - at slaughterhouse - Control and eradication programmes		
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at retail - domestic production - Control and eradication programmes		
Meat from other animal species or not specified - minced meat - intended to be eaten cooked - chilled - at retail - domestic production - Control and eradication programmes [1)]		1
Meat from pig - carcase - chilled - at slaughterhouse - Control and eradication programmes		
Meat from pig - minced meat - intended to be eaten cooked - at retail - domestic production - Control and eradication programmes		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - Control and eradication programmes		

Comments:

[1)] Mixed turkey and pig meat

2.1.3 Salmonella in animals

Table Salmonella in breeding flocks of Gallus gallus

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes	65	NFVRAI	Objective sampling	Official sampling	animal sample > faeces		yes	Flock	65	0	

	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes						

Table Salmonella in other birds

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Ostriches - farmed - at farm - Monitoring	NFVRAI	Objective sampling	Official sampling	animal sample > faeces		Flock	1	0			

Table Salmonella in other poultry

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - laying hens - day-old chicks - Control and eradication programmes	127	NFVRAI	Objective sampling	Official sampling	animal sample > faeces		yes	Flock	22	0	
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes	127	NFVRAI	Objective sampling	Industry sampling	animal sample > faeces		yes	Flock	127	1	1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes [1)]	127	NFVRAI	Objective sampling	Official and industry sampling	animal sample > faeces		yes	Flock	127	1	1
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	210	NFVRAI	Objective sampling	Official sampling	animal sample > faeces		yes	Flock	165	0	
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes	46	NFVRAI	Objective sampling	Official sampling	animal sample > faeces		yes	Flock	24	0	

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Gallus gallus (fowl) - laying hens - day-old chicks - Control and eradication programmes			
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes			
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes [1)]			
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes			

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes			

Comments:

1)

2.1.4 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 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		1		1		2				2
Number of isolates serotyped	0	1	0	1	0	2	0	0	0	2
Number of isolates per serovar										
S. Derby										1
S. Enteritidis		1		1		2				
S. Typhimurium										1

2.1.5 Antimicrobial resistance in Salmonella isolates

Table Antimicrobial susceptibility testing of Salmonella in meat from pig

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		Salmonella spp.	
Isolates out of a monitoring program (yes/no)			no							
Number of isolates available in the laboratory			1							
Antimicrobials:	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin			1	0						
Aminoglycosides - Kanamycin			1	1						
Aminoglycosides - Streptomycin			1	1						
Amphenicols - Chloramphenicol			1	0						
Cephalosporins - 3rd generation cephalosporins			1	0						
Sulfonamides			1	1						
Tetracyclines - Tetracycline			1	1						
Trimethoprim + Sulfonamides			1	1						
Fully sensitive			1	0						
Resistant to >4 antimicrobials			1	1						

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

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Paratyphi B var. Java		Salmonella spp.	
Isolates out of a monitoring program (yes/no)	no									
Number of isolates available in the laboratory	1									
Antimicrobials:	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin	1	0								
Aminoglycosides - Kanamycin	1	0								
Aminoglycosides - Streptomycin	1	0								
Amphenicols - Chloramphenicol	1	0								
Cephalosporins - 3rd generation cephalosporins	1	0								
Penicillins - Ampicillin	1	0								
Sulfonamides	1	0								
Tetracyclines - Tetracycline	1	0								
Trimethoprim + Sulfonamides	1	0								
Fully sensitive	1	1								

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

2.2 CAMPYLOBACTERIOSIS

2.2.1 General evaluation of the national situation

2.2.2 Campylobacter in foodstuffs

Table Campylobacter in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - domestic production - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample		Single	25 g	2	0		
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - domestic production - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample		Single	25 g	1	0		
Ready-to-eat salads - at processing plant - domestic production - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample		Single	25 g	1	0		
Vegetables - pre-cut - ready-to-eat - at processing plant - domestic production - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample		Single	25 g	4	0		

Table Campylobacter in other food

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - domestic production - Control and eradication programmes			
Meat, mixed meat - meat products - cooked, ready-to-eat - at retail - domestic production - Control and eradication programmes			
Ready-to-eat salads - at processing plant - domestic production - Control and eradication programmes			
Vegetables - pre-cut - ready-to-eat - at processing plant - domestic production - Control and eradication programmes			

Table Campylobacter in poultry meat

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni
Meat from broilers (Gallus gallus) - fresh - at processing plant	NFVRAI	Suspect sampling	Official sampling	food sample > meat		Single	25 g	1	0		
Meat from broilers (Gallus gallus) - fresh - at retail	NFVRAI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	3	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant	NFVRAI	Suspect sampling	Official sampling	food sample		Single	25 g	1	1		1

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

2.2.3 Antimicrobial resistance in Campylobacter isolates

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

2.3 LISTERIOSIS

2.3.1 General evaluation of the national situation

2.3.2 Listeria in foodstuffs

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Cheeses, made from unspecified milk or other animal milk - unspecified - at retail - Surveillance	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g for the detection and 1 g for the enumeration	60	0	30	0
Dairy products (excluding cheeses) - at retail - Control and eradication programmes [1)]	NFVRAI	Suspect sampling	Official sampling	food sample		Single	1 g	1	0		
Dairy products (excluding cheeses) - at retail - domestic production - Control and eradication programmes [2)]	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g	1	0		
Dairy products (excluding cheeses) - yoghurt - at retail - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample		Single	1 g	1			

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses, made from unspecified milk or other animal milk - unspecified - at retail - Surveillance	30	0	

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Dairy products (excluding cheeses) - at retail - Control and eradication programmes [1)]	1	0	
Dairy products (excluding cheeses) - at retail - domestic production - Control and eradication programmes [2)]	1	0	
Dairy products (excluding cheeses) - yoghurt - at retail - Control and eradication programmes	1	0	

Comments:

[1)] mixed milk fats and plant origin fats

[2)] Curd

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance	NFVRAI	Suspect sampling	Official sampling	food sample > meat		Single	25 g	1	0	1	0
Meat from bovine animals - fresh - at processing plant - Surveillance	NFVRAI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	3	0	3	0
Fish - smoked - at processing plant - Surveillance	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g	14	0	8	0
Fish - smoked - at retail - Surveillance	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g for the detection and 1 g for the enumeration	112	8	56	7
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g	4	0	4	0
Ready-to-eat salads	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g	8	0	8	0
Fish - cooked - at processing plant - domestic production - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g	3	0	3	0
Fish - gravad /slightly salted - at processing plant - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g for the detection and 1 g for the enumeration	11	0	6	0
Fish - gravad /slightly salted - at retail - domestic production - Surveillance	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g for the detection and 1 g for the enumeration	12	2	6	2
Fish - raw - frozen - at processing plant - domestic production - Control and eradication programmes [1)]	NFVRAI	Suspect sampling	Official sampling	food sample		Single	25 g	1	0	1	0

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Fish - raw - frozen - at retail - imported - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g	3	1	3	1
Fishery products, unspecified - ready-to-eat - chilled - at retail - imported - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample		Single	1 g	1	0		
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - imported - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	7	0	7	0
Meat from pig - minced meat - intended to be eaten cooked - chilled - at retail - domestic production - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample		Single	25 g	2	0	2	0
Meat from rabbit - fresh - frozen - at retail - domestic production - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample		Single	25 g	1	0	1	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten cooked - at processing plant - domestic production - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample		Single	1 g	2	0		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - at retail - domestic production - Control and eradication programmes [2)]	NFVRAI	Objective sampling	Official sampling	food sample > meat		Batch	25 g	63	10	57	10
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	NFVRAI	Objective sampling	Official sampling	food sample		Batch	25 g for the detection and 1 g for the enumeration	60	0	30	0

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance			
Meat from bovine animals - fresh - at processing plant - Surveillance			
Fish - smoked - at processing plant - Surveillance	6	0	
Fish - smoked - at retail - Surveillance	56	1	
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance			
Ready-to-eat salads			
Fish - cooked - at processing plant - domestic production - Control and eradication programmes			
Fish - gravad /slightly salted - at processing plant - Control and eradication programmes	5	0	
Fish - gravad /slightly salted - at retail - domestic production - Surveillance	6	0	
Fish - raw - frozen - at processing plant - domestic production - Control and eradication programmes [1)]			
Fish - raw - frozen - at retail - imported - Control and eradication programmes			
Fishery products, unspecified - ready-to-eat - chilled - at retail - imported - Control and eradication programmes	1	0	

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - imported - Control and eradication programmes			
Meat from pig - minced meat - intended to be eaten cooked - chilled - at retail - domestic production - Control and eradication programmes			
Meat from rabbit - fresh - frozen - at retail - domestic production - Control and eradication programmes			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten cooked - at processing plant - domestic production - Control and eradication programmes	2	0	
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - at retail - domestic production - Control and eradication programmes [2)]	6	0	
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance	30	0	

Comments:

[1)] salmon carpaccio

[2)] Smoked sausages

Table Listeria monocytogenes in other foods

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

2.4.2 Escherichia coli, pathogenic in foodstuffs

Table VT E. coli in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Analytical Method	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	NFVRAI	Objective sampling	Official sampling	food sample		PCR	Batch	25 g	73	0	
Seeds, sprouted - ready-to-eat - at retail - Surveillance	NFVRAI	Objective sampling	Official sampling	food sample		PCR	Batch	25 g	17	0	

	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance		
Seeds, sprouted - ready-to-eat - at retail - Surveillance		

2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1 General evaluation of the national situation

2.5.2 Mycobacterium in animals

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			
Lietuva	86207	669190	86207	100	0	0	once a year	580861	41318	5	0
Total : [1)]	86207	669190	86207	100	0	0	N.A.	580861	41318	5	0

Comments:

[1)] N.A.

2.6 BRUCELLOSIS

2.6.1 General evaluation of the national situation

2.6.2 Brucella in animals

Table Brucellosis in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Brucella	B. abortus	B. melitensis	B. suis
Pigs	SFVS	Objective sampling	Industry sampling	animal sample > blood		Animal	17166	0			
Deer - farmed - fallow deer - at farm - Monitoring	SFVS	Objective sampling	Industry sampling	animal sample > blood		Animal	281	0			

	Brucella spp., unspecified
Pigs	
Deer - farmed - fallow deer - at farm - Monitoring	

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

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

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
Lietuva	7777	67682	7777	100	0	0	12	220	0	0	0	0	0	0
Total : [1)]	7777	67682	7777	100	0	0	12	220	0	0	0	0	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		
Lietuva	86207	669190	86207	100	0	0	60349	390142	0	20963	211881	0	54	0	0	85	0	0	0	0	0
Total : [1)]	86207	669190	86207	100	0	0	60349	390142	0	20963	211881	0	54	0	0	85	0	0	0	0	0

Comments:

[1)] N.A.

2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

2.7.2 Yersinia in foodstuffs

Table Yersinia in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Yersinia	Y. enterocolitica	Y. pseudotuberculosis
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance	NFVRAI	Suspect sampling	Official sampling	food sample		Single	25 g	1	0		

	Yersinia spp., unspecified	Y. enterocolitica - O:3	Y. enterocolitica - O:9	Y. enterocolitica - unspecified
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance				

2.8 TRICHINELLOSIS

2.8.1 General evaluation of the national situation

2.8.2 Trichinella in animals

Table Trichinella in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Trichinella	T. spiralis	Trichinella spp., unspecified
Pigs - fattening pigs	SFVS	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	777781	10		10
Solipeds, domestic - horses - at slaughterhouse - Surveillance	SFVS	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	2023	0		
Wild boars - farmed - Surveillance	SFVS	Objective sampling	Official and industry sampling	animal sample > organ/tissue		Animal	18208	114		114
Foxes - Monitoring	SFVS	Objective sampling	Not applicable	animal sample > organ/tissue		Animal	25	16		16
Raccoon dogs - Monitoring	SFVS	Objective sampling	Not applicable	animal sample > organ/tissue		Animal	5	5		5
Beavers - wild - from hunting - Unspecified	SFVS	Objective sampling	Not applicable	animal sample > organ/tissue		Animal	5	0		
Coypu - at farm - Unspecified	SFVS	Objective sampling	Not applicable	animal sample > organ/tissue		Animal	8	0		
Other animals - unspecified - unspecified - Unspecified	SFVS	Selective sampling	Not applicable	animal sample > organ/tissue		Animal	9	0		

Table Trichinella in animals

2.9 ECHINOCOCCOSIS

2.9.1 General evaluation of the national situation

2.9.2 Echinococcus in animals

Table Echinococcus in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis
Cattle (bovine animals) - at slaughterhouse - Surveillance	SFVS	Objective sampling	Official sampling	animal sample		Animal	Lietuva	170606	15		
Sheep - at slaughterhouse - Surveillance	SFVS	Objective sampling	Official sampling	animal sample		Animal	Lietuva	5350	0		
Pigs - at slaughterhouse - Surveillance	SFVS	Objective sampling	Official sampling	animal sample		Animal	Lietuva	770395	216		
Solipeds, domestic - horses - at slaughterhouse - Surveillance	SFVS	Objective sampling	Official sampling	animal sample		Animal	Lietuva	1939	0		

	Echinococcus spp., unspecified
Cattle (bovine animals) - at slaughterhouse - Surveillance	15
Sheep - at slaughterhouse - Surveillance	
Pigs - at slaughterhouse - Surveillance	216

Table Echinococcus in animals

	Echinococcus spp., unspecified
Solipeds, domestic - horses - at slaughterhouse - Surveillance	

2.10 TOXOPLASMOSIS

2.10.1 General evaluation of the national situation

2.11 RABIES

2.11.1 General evaluation of the national situation

2.11.2 Lyssavirus (rabies) in animals

Table Rabies in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Rabies virus (RABV)	EBLV-1
Cattle (bovine animals)	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	24	0		
Sheep	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	3	0		
Goats	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	2	0		
Solipeds, domestic	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	2	0		
Dogs - stray dogs	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	93	1	1	

Table Rabies in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Rabies virus (RABV)	EBLV-1
Cats - stray cats	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	64	1	1	
Foxes - wild - Monitoring	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	340	4	4	
Raccoon dogs - wild - Monitoring	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	239	7	7	
Badgers - wild - from hunting - Control and eradication programmes	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	1	1	1	
Beavers - wild - unspecified - Control and eradication programmes	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	4	0		
Deer - wild - roe deer - from hunting - Control and eradication programmes	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	22	0		
Marten - unspecified - Control and eradication programmes	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	38	0		
Other animals - unspecified - at farm - Control and eradication programmes	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	5	0		
Other animals - wild - unspecified - Control and eradication programmes	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	19	0		
Polecats - wild - unspecified - Control and eradication programmes	SFVS	Objective sampling	Official sampling	animal sample > brain		Animal	Lietuva	21	0		

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Cattle (bovine animals)		
Sheep		
Goats		
Solipeds, domestic		
Dogs - stray dogs		
Cats - stray cats		
Foxes - wild - Monitoring		
Raccoon dogs - wild - Monitoring		
Badgers - wild - from hunting - Control and eradication programmes		
Beavers - wild - unspecified - Control and eradication programmes		
Deer - wild - roe deer - from hunting - Control and eradication programmes		
Marten - unspecified - Control and eradication programmes		
Other animals - unspecified - at farm - Control and eradication programmes		
Other animals - wild - unspecified - Control and eradication programmes		
Polecats - wild - unspecified - Control and eradication programmes		

Table Rabies in animals

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

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

3.1.2 Antimicrobial resistance in Escherichia coli, non-pathogenic

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

Test Method Used	Standard methods used for testing

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

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

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

3.2 ENTEROCOCCUS, NON-PATHOGENIC

3.2.1 General evaluation of the national situation

3.2.2 Antimicrobial resistance in Enterococcus, non-pathogenic isolates

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

Test Method Used	Standard methods used for testing

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

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

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 ENTEROBACTER SAKAZAKII

4.1.1 General evaluation of the national situation

4.2 HISTAMINE

4.2.1 General evaluation of the national situation

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

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

According to the Lithuania communicable diseases reporting law, it is mandatory to report food-borne outbreaks. The Centre for Communicable Diseases and AIDS and the territorial State Food and Veterinary Services receives information about food-borne outbreaks from all territorial Public Health Centres. Both institutions receives this information per 2 hours on phone and 12 hours by official letter about epidemiological investigation results. Centre for Communicable Diseases and AIDS produces a national report to the Ministry of Health and media, if food-borne outbreak is a importance for country and is general. Territorial Public Health Centres report information about household outbreaks to the Centre for Communicable Diseases and AIDS twice a month.

Description of the types of outbreaks covered by the reporting:

According to the directive 2003/99/EC general and household outbreaks are reported by requirements.

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

The trend food-borne outbreaks isn't changed significantly per last a few years. 194 food-borne outbreaks and 773 cases were reported in 2007, 221 outbreaks (865 cases) in 2008, 173 outbreaks (653 cases) in 2009, 195 outbreaks (617 cases) in 2010, 176 outbreaks (679 cases) in 2011.

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

The common food-borne outbreaks causative agents were Salmonella and viruses in 2011. 67 (38 proc.) of total 176 food-borne outbreaks causative agents was Salmonella, 40 (23 proc.) - viruses, 15 (8 proc.) other aetiology, 54 (30 proc.) unknown aetiology.

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

In 2011, 112 (63,6 proc.) of total 176, were household food-borne outbreaks, which usually linking with consumption of food made at home.

Evaluation of the severity and clinical picture of the human cases

None death cases linking with food-borne outbreaks were reported in 2011.

Control measures or other actions taken to improve the situation

State Food and Veterinary Service control companies of Food and food preparing. Centre for Communicable Diseases and AIDS, territorial Public Health institutions carry out of food-borne outbreaks epidemiological surveillance and investigate outbreaks. Responsible authority under the jurisdiction organize outbreaks eliminate measures, provide information to the public about causes of outbreaks and information about communicable diseases prevention.

Table Foodborne Outbreaks: summarised data

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Salmonella - S. Typhimurium	5	12	6	0	0	5
Salmonella - S. Enteritidis	54	199	126	0	2	56
Salmonella - Other serovars	6	15	10	0	0	6
Campylobacter	5	16	6	0	0	5
Listeria - Listeria monocytogenes	0	unknown	unknown	unknown	0	0
Listeria - Other Listeria	0	unknown	unknown	unknown	0	0
Yersinia	1	2	2	0	0	1
Escherichia coli, pathogenic - Verotoxigenic E. coli (VTEC)	0	unknown	unknown	unknown	0	0
Bacillus - B. cereus	0	unknown	unknown	unknown	0	0
Bacillus - Other Bacillus	0	unknown	unknown	unknown	0	0
Staphylococcal enterotoxins	0	unknown	unknown	unknown	0	0
Clostridium - Cl. botulinum	2	4	4	0	0	2
Clostridium - Cl. perfringens	0	unknown	unknown	unknown	0	0

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Clostridium - Other Clostridia	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Brucella	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Shigella	3	17	12	0	0	3
Other Bacterial agents - Other Bacterial agents	0	unknown	unknown	unknown	0	0
Parasites - Trichinella	4	51	14	0	0	4
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	14	36	32	0	0	14
Viruses - Hepatitis viruses	0	unknown	unknown	unknown	0	0
Viruses - Other Viruses	26	99	75	0	0	26
Other agents - Histamine	0	unknown	unknown	unknown	0	0
Other agents - Marine biotoxins	0	unknown	unknown	unknown	0	0
Other agents - Other Agents	0	unknown	unknown	unknown	0	0

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Unknown agent	53	158	81	0	1	54

Table Foodborne Outbreaks: detailed data for Salmonella

Please use CTRL for multiple selection fields

S. Enteritidis

	Value
FBO Code	
Number of outbreaks	1
Number of human cases	9
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Analytical epidemiological 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	Cross-contamination;Inadequate chilling;Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	
Number of outbreaks	1
Number of human cases	18
Number of hospitalisations	9
Number of deaths	0
Food vehicle	Bakery products
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence;Descriptive epidemiological evidence
Outbreak type	General
Setting	Mobile retailer, market/street vendor
Place of origin of problem	Unknown
Origin of food vehicle	Domestic market
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Unknown agent

Please use CTRL for multiple selection fields

Unknown

	Value
FBO Code	
Number of outbreaks	1
Number of human cases	43
Number of hospitalisations	29
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Analytical epidemiological 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	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	