



LITHUANIA

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

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

including information on foodborne outbreaks and
antimicrobial resistance in zoonotic agents

IN 2005

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: **Lithuania**

Reporting Year: **2005**

Institutions and laboratories involved in reporting and monitoring:

Laboratory name	Description	Contribution
National veterinary laboratory	<p>National Veterinary laboratory (NVL) is central laboratory of State Food and Veterinary Service (SFVS)</p> <p>The laboratory is accredited according to requirement of LST EN ISO/IEC 17025 standard microbiological, mycological, sensorical, chemical, radiological, genetically modified organisms analysis of foodstuffs and feedstuffs, water, beverages. Also to perform diagnostic analysis of animal infectious diseases.</p> <p>NVL results of analysis are appreciable in European Union and in other world countries.</p>	Data on laboratory tests

<p>State food and Veterinary Service</p>	<p>The State Food and Veterinary Service (SFVS) develops and implements the Government's policy in food safety and quality as well as in animal health and welfare. The SFVS is accountable to the Government of the Republic of Lithuania.</p> <p>Objectives</p> <ul style="list-style-type: none"> - To ensure monitoring and control of contagious animal diseases, zoonoses and of animal welfare, to eliminate outbreaks of diseases; to apply all the necessary biological measures for prevention from the introduction of contagious diseases and zoonoses into the territory of Lithuania and the EU - To ensure food safety and control at all the stages of food handling according to the principle "from stable/field to table", to safeguard the interests of consumers, to ensure that the food supplied on the market as well as that intended for export complies with safety, labelling and other mandatory requirements established by the legal acts. 	<p>develops and implements the Government's policy in food safety and quality as well as in animal health and welfare</p>
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PREFACE

This report is submitted to the European Commission in accordance with Article 9 of Council Directive 2003/99/EC¹. 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 2005. 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.

¹ 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

Only if different than current reporting year								
Animal species	Category of animals	Livestock numbers (live animals)	Number of slaughtered animals		Number of herds or flocks		Number of holdings	
			Year*	Year*	Year*	Year*	Year*	Year*
Cattle (bovine animals)	mixed herds	2005				2005		2005
	dairy cows and heifers	416500						165578
	in total	902362				335691		190373
Ducks	in total	45500						561
Gallus gallus (fowl)	breeding flocks, unspecified - in total	803469						13
	laying hens	4219300						14
	broilers	3466929						20
Geese	in total	51500						568
Goats	in total	6776						3632
Pigs	in total	1114100						34986
Sheep	in total	39375						3093
Solipeds, domestic	horses - in total	62600						
Turkeys	in total	93400						759

2. INFORMATION ON SPECIFIC ZONOSSES 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 unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Stanleyville
Meat from broilers (Gallus gallus)									
fresh	Lab. of SFVS	flock	svab	963	44	44			
Meat from poultry, unspecified (1)	NRL	sample	25 g	127	5	2		2	1

(1) : Samples are unspecified poultry meat and products thereof

Table Salmonella spp. 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) (2)	NRL	sample	25 ml/g	98	1	1		
Milk from other animal species or unspecified (1)	NRL	sample	25 ml	5	0			

(1) : Samples are raw milk, unspecified

(2) : Samples are dairy products (including cheese, unspecified)

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
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) (1)	NRL	sample	25 g	271	0			

(1) : Samples are red meat and products thereof

Table Salmonella spp. in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Eggs	NRL	sample	25 g	37	0			
Fishery products (1)	NRL	sample	25 g	27	1	1		
Juice	NRL	sample	25 ml	6	0			
ready-to-eat salads	NRL	sample	25 g	102	0			
Spices and herbs	NRL	sample	25 g	3	0			
Cocoa and cocoa preparations, coffee and tea	NRL	sample	25 g	1	0			
Beverages, non-alcoholic	NRL	sample	25 ml	1	0			
Water	NRL	sample	>10 ml	6	0			
Other food of non-animal origin (2)	NRL	sample	25 g	210	2	2		

(1) : Positive sample was sticks of frozen crab

(2) : Samples are:

82- farinaceous prod., 6 - dried vegetables and fruits, 19 - beer, 103 - other.

Positives are:

1 - confectionery,

1 - roasted kebab

2.1.3. Salmonella in animals**Table Salmonella in other poultry**

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Derby	S. London	S. Senftenberg	S. group B
Gallus gallus (fowl)											
laying hens	Lab. of SFVS	flock	21	1	1						
during rearing period	Lab. of SFVS	flock	554	3	3						
during production period	NVL	flock	13	6	5					1	
- at farm - animal sample	Lab. of SFVS	flock	393	0							
- eggs											
broilers	Lab. of SFVS	flock	41	0							
during rearing period	Lab. of SFVS	flock	747	10	10						
unspecified											
day-old chicks	Lab. of SFVS	flock	623	2	2						
during rearing period	Lab. of SFVS	flock	527	2	2						
during production period	Lab. of SFVS	flock	571	19	18			1			
Ducks	Lab. of SFVS	bird	3	2					2		
Pigeons											
wild											
- in total	Lab. of SFVS	bird	5	2							2
All animals											
unspecified	Lab. of SFVS	birds	375	0							

Footnote

All animals, unspecified - different birds species;

Table Salmonella in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. group E	S. London	S. Dublin	S. Infantis	S. group C1
Cattle (bovine animals)	Lab. of SFVS	Animal	136	1						1		
Sheep	Lab. of SFVS	Animal	1	0								
Goats	Lab. of SFVS	Animal	1	0								
Pigs	Lab. of SFVS	Animal	197	12				1	4		1	6
All animals farmed												
- at farm - animal sample												
- organ/tissue - Clinical investigations - suspect sampling	Lab. of SFVS	Animal	53	0								

Footnote

Lab. of SFVS - laboratories of State food and veterinary service

2.1.4. Salmonella in 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
Feed material of land animal origin								
meat and bone meal	Lab. of SFVS	Sample	25 g	171	0			
Feed material of marine animal origin								
fish meal	Lab. of SFVS	Sample	25 g	84	0			

Footnote

Lab.of SFVS - laboratories of state food and veterinary service

Table Salmonella in other feed matter

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Typhimurium	S. Enteritidis	Salmonella spp., unspecified	S. Agona	S. Tennessee	S. group C	S. Senftenberg
Feed material of oil seed or fruit origin	Lab. of SFVS	Sample	25 g.	186	9				2	3	1	5
	other oil seeds derived											
Other feed material	Lab. of SFVS	Sample	25 g	56	0							
	other plants											
Premixtures	Lab. of SFVS	Sample	25 g	68	1						1	

Footnote

Lab. of SFVS - laboratories of state food and veterinary service

Table Salmonella in compound feedingstuffs

Compound feedingstuffs, not specified	Lab. of SFVS	Sample	25 g	623	3	S. Typhimurium	S. Enteritidis	Salmonella spp., unspecified	1	1	S. group C	S. Senftenberg	S. Tennessee	S. Agona
	Source of information													
	Sampling unit													
	Sample weight													
	Units tested													
	Total units positive for Salmonella													
	S. Typhimurium													
	S. Enteritidis													
	Salmonella spp., unspecified													
	S. group C													
	S. Senftenberg													
	S. Tennessee													
S. Agona														

Footnote

Lab. of SFVS - laboratories of state food and veterinary service

2.1.5. Salmonella serovars and phagetype distribution

Table Salmonella serovars in animals

Serovars	Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Other poultry		Ducks		Pigeons		
	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	
	Sources of isolates												
	Number of isolates in the laboratory		N=										
Number of isolates serotyped		N=											
Number of isolates per type													
S. Dublin	1												
S. Enteritidis					5	37							
S. Infantis				1									
S. London				4						2			
S. Senftenberg					1								2
S. group B													
S. group E				1									
S. group C1				6									
Total of typed Salmonella isolates													

Footnote

(*) M : Monitoring, C : Clinical

Table *Salmonella* serovars in food

Serovars	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Other poultry		Other products of animal origin		Meat from poultry, unspecified		Cheeses, made from unspecified milk or other animal milk		Fishery products, unspecified		Confectionery products and pastes		Other food of non-animal origin		
	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	
	Sources of isolates																				
Number of isolates in the laboratory	N=																				
Number of isolates serotyped	N=																				
Number of isolates per type																					
S. Enteritidis																					
Salmonella spp.																					
S. group C1																					
Total of typed Salmonella isolates																					

Footnote

(*) M : Monitoring, C : Clinical

2.1.6. Antimicrobial resistance in Salmonella isolates

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.

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[illegible]

Table Antimicrobial susceptibility testing of S. Senftenberg in elite breeding flocks for egg production line - Gallus gallus (fowl) - during production period - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																																				
S. Senftenberg																																																				
Gallus gallus (fowl) - elite breeding flocks for egg production line - during production period																																																				
Isolates out of a monitoring programme	yes																																																			
	1																																																			
Number of isolates available in the laboratory																																																				
			N	n	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35																		
Antimicrobials:																																																				
Amphenicols																																																				
Chloramphenicol			1	1																				1																												
Fluoroquinolones																																																				
Ciprofloxacin			1	1																			1																													
Enrofloxacin			1	1												1																																				
Quinolones																																																				
Nalidixic acid			1	1																			1																													
Trimethoprim																																																				
Aminoglycosides																																																				
Streptomycin			1	1							1																																									
Gentamicin			1	1												1																																				
Neomycin			1	1													1																																			
Kanamycin			1	1																																																
Trimethoprim + sulfonamides																																																				
Trimethoprim + sulfonamides			1	1																																																
Penicillins																																																				
Ampicillin			1	1																																																
Tetracyclines																																																				
Tetracyclin			1	1																																																

Table Breakpoints for antibiotic resistance testing of Salmonella in Animals**Test Method Used**

Disc diffusion
Agar dilution
Broth dilution
E-test

Standards used for testing

NCCLS

Salmonella	Standard for breakpoint	Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		disk content microg	breakpoint Zone diameter (mm)		
		Susceptible ≤	Intermediate	Resistant >	lowest	highest		Susceptible ≥	Intermediate	Resistant ≤
Amphenicols										
Chloramphenicol							30	18	13...17	12
Tetracyclines										
Tetracyclin							30	19	15...18	14
Fluoroquinolones										
Ciprofloxacin							5	21	16...20	15
Enrofloxacin							5	19	18...21	17
Quinolones										
Nalidixic acid							30	19	14...18	13
Sulfonamides										
Trimethoprim							5	16	14...15	13
Aminoglycosides										
Streptomycin							10	15	12...14	11
Gentamicin							10	15	13...14	12
Neomycin							30	17	13...16	12
Kanamycin							30	18	14...17	13
Trimethoprim + sulfonamides							1,25...23,75	16	11...15	10
Penicillins										
Ampicillin							10	17	14...16	13

Footnote

Trimethoprim + sulfonamides: disk content: 1,25microg + 23,75 microg.

2.2. CAMPYLOBACTERIOSIS

2.2.1. General evaluation of the national situation

2.2.2. Campylobacter, thermophilic in foodstuffs

Table Campylobacter in poultry meat

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for thermophilic Campylobacter spp.	C. coli	C. lari	C. jejuni	C. upsaliensis	thermophilic Campylobacter spp., unspecified
Meat from poultry, unspecified (1)	NRL	sample	25g	29	0					

(1) : 3 units tested for poultry meat products

2.2.3. Campylobacter, thermophilic in animals**Table Campylobacter in animals**

	Source of information	Sampling unit	Units tested	Total units positive for Campylobacter, thermophilic	C. jejuni	C. coli	C. lari	C. upsaliensis	thermophilic Campylobacter spp., unspecified
Cattle (bovine animals)									
dairy cows	Laboratories of SFVS	animal	732	10	7		3		
Pigs	Laboratories of SFVS	animal	18	0					
Gallus gallus (fowl)									
broilers									
- at farm	Laboratories of SFVS	flock	973	2	2				
- at slaughterhouse	Laboratories of SFVS	flock	1007	5	5				
Turkeys	Laboratories of SFVS	flock	34	4	4				
Dogs	Laboratories of SFVS	Animal	5	0					

Footnote

SFVS - state food and veterinary service

2.2.4. Antimicrobial resistance in Campylobacter, thermophilic isolates

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

26 samples ovine tested all negative

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

26 ovines tested all negative

2.3.2. Listeria in foodstuffs

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Definition used	Units tested	≤100 cfu/g	>100 cfu/g	Total units positive for L.monocytogenes	Listeria monocytogenes presence in x g
Dairy products (excluding cheeses) (2)	NRL	sample	25 ml/g		31			0	0
Milk from other animal species or unspecified (1)	NRL	sample	25 ml		2			0	0

(1) : Samples - unspecified raw milk.

(2) : Samples are all dairy products, unspecified

Table Listeria monocytogenes in other foods

	Source of information	Sampling unit	Sample weight	Definition used	Units tested	≤100 cfu/g	>100 cfu/g	Total units positive for L.monocytogenes	Listeria monocytogenes presence in x g
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) (1)	NRL	sample	25 g		9			0	0
Meat from poultry, unspecified (2)	NRL	Sample	25 g		1			0	0
Fishery products, unspecified	NRL	Sample	25 g		8			2	2
ready-to-eat salads	NRL	Sample	25 g		5			0	0

(1) : Samples are red meat and products thereof

(2) : Sample is meat product from poultry

2.3.3. Listeria in animals

Table Listeria spp. in animals

	Source of information	Sampling unit	Units tested	Total units positive for Listeria	L. monocytogenes	Listeria spp., unspecified
Cattle (bovine animals)						
dairy cows	Laboratories of SFVS	animal	21	0		
Sheep	Laboratories of SFVS	animal	19	1	1	
Pigs	Laboratories of SFVS	animal	8	0		
Gallus gallus (fowl)	NVL	flock	27	1	1	

Footnote

SFVS - State food and veterinary service; NVL - National veterinary laboratory

2.4. E. COLI INFECTIONS

2.4.1. General evaluation of the national situation

2.4.2. Escherichia coli, pathogenic in foodstuffs

2.4.3. Escherichia coli, pathogenic in animals

Table VT E.coli in animals

	Source of information	Sampling unit	Units tested	Total units positive for Escherichia coli, pathogenic	E. coli spp., unspecified	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC O157:H7
Cattle (bovine animals)							
meat production animals	NVL	Animal	124	0			
Poultry, unspecified	NVL	Flock	26	0			

Footnote

NVL - National veterinary laboratory

2.5. TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1. General evaluation of the national situation

2.5.2. Mycobacterium in animals

Table Tuberculosis in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Mycobacterium	M. bovis	M. tuberculosis	Mycobacterium spp., unspecified
Pigs	SFVS	ANIMAL	598	0	0	0	0

Table Bovine tuberculosis - data on herds - Community co-financed eradication programmes

Region	Total number of herds	Total number of herds under the programme	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	% positive herds depopulated	Indicators		
								% herd coverage	% positive herds period prevalence	% new positive herds - herd incidence
LIETUVA	190373	190373	190373	0	0	0	0	100	0	0
Total	190373	190373	190373	0	0	0	0	100	0	0
Total - 1										

Table Bovine tuberculosis - data on animals - Community co-financed eradication programmes

Region	Total number of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of new positive animals	Slaughtering			Indicators	
						Number of animals with positive result slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals - animal prevalence	
LIETUVA	902362	380664	380664	24246	0	0	0	100	0	
Total	902362	380664	380664	24246	0	0	0	100	0	
Total - 1										

Footnote

milk pools tested in all herds;
Individual animals tested serologically

Table Bovine tuberculosis - data on status of herds at the end of the period - Community co-financed eradication programmes

Region	Status of herds and animals under the programme															
	Total number of herds and animals under the programme		Unknown		Not free or not officially free				Free or officially free suspended				Free		Officially free	
					Last check positive		Last check negative									
	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals
LIETUVA	190373	902362													190373	902362
Total	190373	902362	0	0	0	0	0	0	0	0	0	0	0	0	190373	902362
Total - 1																

2.6. BRUCELLOSIS**2.6.1. General evaluation of the national situation****2.6.2. Brucella in foodstuffs****2.6.3. Brucella in animals****Table Brucellosis in other animals**

	Source of information	Sampling unit	Units tested	Total units positive for Brucella	B. melitensis	B. abortus	B. suis	Brucella spp., unspecified
Pigs	Lab. of SFVS	Animal	6149	0				
- at farm - animal sample - organ/tissue - Clinical investigations - suspect sampling	NVL	Animal	3	0				
Cattle (bovine animals)								
- at farm - animal sample - organ/tissue - Monitoring - official sampling - objective sampling	NVL	Animal	295	0				
- at farm - animal sample - blood - Monitoring	Lab. of SFVS	Animal	16416	0				
- at farm - animal sample - milk - Monitoring	Lab. of SFVS	joint milk sample	80353	92		92		
Sheep								
- at farm - animal sample - organ/tissue - Monitoring - official sampling - objective sampling	NVL	Animal	3	0				
- at farm - animal sample - blood - Monitoring	Lab. of SFVS	Animal	2730	0				
Goats								
- at farm - animal sample - blood - Monitoring	Lab. of SFVS	Animal	91	0				
All animals								
wild								
- at farm - animal sample - blood - Monitoring	Lab. of SFVS	Animal	38	0				

Footnote

Lab. of SFVS - laboratories of State food and veterinary service, NVL - National veterinary laboratory

Table Bovine brucellosis - data on herds - Community co-financed eradication programmes

Region	Total number of herds	Total number of herds under the programme	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	% positive herds depopulated	Indicators		
								% herd coverage	% positive herds period prevalence	% new positive herds - herd incidence
LIETUVA	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Total - 1										

Table Bovine brucellosis - data on animals - Community co-financed eradication programmes

Region	Total number of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of new positive animals	Slaughtering			Indicators	
						Number of animals with positive result slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals - animal prevalence	
LIETUVA					0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	
Total - 1										

Table Bovine brucellosis - data on status of herds at the end of the period - Community co-financed eradication programmes

Region	Status of herds and animals under the programme														
	Total number of herds and animals under the programme			Unknown		Not free or not officially free				Free or officially free suspended		Free		Officially free	
						Last check positive		Last check negative							
	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	
LIETUVA	190373	902362											190373	902362	
Total	190373	902362	0	0	0	0	0	0	0	0	0	0	190373	902362	
Total - 1															

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance				Investigations of suspect cases										
							Serological tests				Examination of bulk milk samples		Information about abortions		Epidemiological investigation						
	Herds	Animals	Number of herds	%	Number of herds	%	Number of bovine herds tested	Number of animals tested	Number of infected herds tested	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 Serologically	BST	Number of animals examined microbiologically	Number of animals positive microbiologically
LIETUVA	190373	902362		100	0	0	3437	10452	0	24246	0	627	0	522	380664	0	0	0	0	0	315
Total	190373	902362	0	100	0	0	3437	10452	0	24246	0	627	0	522	380664	0	0	0	0	0	315

2.7. YERSINIOSIS

2.7.1. General evaluation of the national situation

2.7.2. Yersinia in foodstuffs

2.7.3. Yersinia in animals

Table Yersinia spp. in animals

	Source of information	Sampling unit	Units tested	Total units positive for Yersinia	Y. enterocolitica	Yersinia unspecified	Y. enterocolitica - Y. enterocolitica O:9	Y. enterocolitica - Y. enterocolitica O:3
Cattle (bovine animals)	Lab. of SFVS	Animal	2	2			2	
Pigs	Lab. of SFVS	Animal	3	2				2

Footnote

Lab. of SFVS - laboratoies of State food and veterinary servise

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 unit	Units tested	Total animals positive for Trichinella	T. spiralis	Trichinella spp., unspecified
Pigs						
fattening pigs						
raised under controlled housing conditions in integrated production system	SFVS	animal	952501	6	6	
Solipeds, domestic						
horses	SFVS	animal	567	0		
Wild boars						
wild	SFVS	ANIMAL	9011	46	46	
Foxes	SFVS	ANIMAL	38	11		

2.9. ECHINOCOCCOSIS

2.9.1. General evaluation of the national situation

2.9.2. Echinococcus in animals

Table Echinococcus spp. in animals

	Source of information	Sampling unit	Units tested	Total units positive for Echinococcus spp.	E. granulosus	E. multilocularis	Echinococcus spp., unspecified
Pigs	SFVS	animal	8974	0			

2.10. TOXOPLASMOSIS

2.10.1. General evaluation of the national situation

2.10.2. Toxoplasma in animals

Table Toxoplasma in animals

	Source of information	Sampling unit	Units tested	Total units positive for Toxoplasma
Pigs	Lab. of SFVS	Animal	3	0
Cats	Lab. of SFVS	Animal	51	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

Rabies has been compulsory notifiable an enzootic disease in Lithuania for many years. The State Food and Veterinary Service has carried out surveillance and risk assessment of the epidemiological situation of zoonotic diseases and has developed and implemented prevention and control measures as regard rabies in a country. Suspected cases were notified to the local State Food and Veterinary Services and relevant samples were collected and submitted to veterinary laboratories for the investigation by direct immunofluorescence test and biological test. Mouse inoculation has been used to confirm or rule out rabies on negative samples tested by immunofluorescence method.

Private veterinarians vaccinate approximately 200000 dogs and 25000 cats annually. This represents about 70 % of the estimated dog population and about 10 % cat population. Only inactivated vaccines of the highly immunogenic strains of the rabies virus have been used for vaccination dogs and cats. Emergency vaccination of domestic animals is carried out in the areas where the positive case of rabies was detected.

Pet animal movements have been controlled at the border entry points and it is required obligatory vaccination against rabies and appropriate animal identification and veterinary certificate for commercial movements of pet animals and approved passport or veterinary certificate for non-commercial movements of animals. Since October of 2004, for international movements, all dogs and cats must be identified by tattoo or microchip. They should be vaccinated against rabies with live or inactivated vaccine of at least one antigenic dose and authorized veterinarian should do vaccination. Pet passport should be used for the movement of animals between Member States. All identified pet animals should be registered into computerized database that will be accessible for all relevant competent authorities.

Oral vaccination of wildlife was pursued according Lithuanian National Rabies Prevention Programme during the period of 1995-2000. SAG 1, Lysvulpen (in 1998) and Rabifox (in 1999-2000) marked oral rabies vaccines were used in small-defined wildlife living areas covering of approximately from 1000 until 12000 square kilometers. The oral vaccination was carried out twice per year in March-April and October-November. Aircraft, hunters, game wardens and forest workers were involved in distribution of baits with tetracycline marked vaccine. Semi-thin slides of tooth and mandible of shot foxes and raccoon dogs were examined microscopically for the fluorescence of tetracycline deposits and blood samples for ELISA test were used in order to determine the efficiency of oral vaccination of wildlife.

Rabies has been widespread in the whole territory of the Republic of Lithuania. Wildlife rabies has enzootic pattern of the disease while urban rabies has been eradicated. Rabid wild animals are the main reservoir of this disease in a country and they course sporadic cases of rabies in domestic animals. Since 1960 eleven people have died of rabies: dogs infected two, foxes - four, raccoon dogs - two, badger - one, cat - one and the origin of the one case was unidentified. Aggressive dogs pose high risk of rabies to humans, because in each incident they could be considered as rabies-suspected animals.

The main reservoir species of rabies virus and the main animals distributing the disease were red

foxes (*Vulpes vulpes*) and raccoon dogs (*Nyctereutes procyonoides*). Rabies is more widespread in wooded areas, but on the other hand wild predators moved as well into areas of human settlements.

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

The main reservoir species of rabies virus and the main animals distributing the disease were red foxes (*Vulpes vulpes*) and raccoon dogs (*Nyctereutes procyonoides*). Rabies is more widespread in wooded areas, but on the other hand wild predators moved as well into areas of human settlements.

Recent actions taken to control the zoonoses

The long-term strategy for eradication of rabies in Lithuania contains the following elements:

- oral vaccination of wild animals, especially red foxes and raccoon dogs, with vaccine which should create sufficient immunity starting in the territory from the west and west-southern parts of Lithuania along the Baltic sea coast, the Nemunas river bank, at the Lithuanian-Kaliningrad region, Lithuanian-Polish and in the north at the Lithuanian-Latvian borders; for the effectiveness of vaccination campaign against rabies, it would be great advantage if all Baltic states and Poland start this campaign at the same time and coordinate their activities;
- rabies eradication campaign should last not less than 5-10 years;
- in order to keep Lithuanian territory free from rabies it is necessary to create a buffer zone at the border with Byelorussia and Kaliningrad region, where oral vaccination of wild animals should be continued for many years until the rabies will be eradicated in those countries;
- compulsory vaccination of dogs and cats;
- implementation of the identification and registration system for dogs and cats;
- control of the population of stray dogs and cats.

Suggestions to the Community for the actions to be taken

Rabies is a serious threat for human and animal health. The disease is widespread and endemic in the three Baltic States in wildlife and causes a significant number of cases in domestic animals.

1. Epidemiologically the three Baltic Member States can be considered as one region. The infection dynamics seems to be similar in all the three countries.
2. Previous vaccination programs carried out in two countries seems to be not sufficiently effective and should be thoroughly modified and improved in the future.
3. More structured and standardized information about the organization and the progress of the programs would be necessary.
4. The exchange of information among the three countries has been established.
5. Experiences in the field showed that the efficacy of used vaccine in raccoon dogs is similar to as that in foxes.
6. In all the three Baltic Member States the shortage of financial resources is major obstacle for implementation of a fully effective, cost efficient, large scale and long term eradication program.
7. In Lithuania the preparedness for controlling the rabies eradication programme in internationally accredited laboratory is sufficient.

Recommendations

The Estonian, Latvian and Lithuanian authorities should consider the eradication of rabies as a

priority.

1. The three Baltic Member States has to be regarded as one single area in the design of eradication strategies.
2. The necessary financial resources for large scale, long term vaccination programs should be made available.
3. The collaboration has to be further developed among the three Baltic States and extended to the other neighboring countries.
4. An agreement should be reached among the neighboring countries to allow a mutual cross border vaccination.

2.11.2. Lyssavirus (rabies) in animals

A. Rabies in dogs

Monitoring system

Methods of sampling (description of sampling techniques)

The system for management of suspected rabies cases allows for rapid and effective integration between SFVS, private vets, public health and municipal authorities, with detailed records collected and municipal instructions issued for disease control and containment.

Euthanasia is practiced for suspected rabies cases, which is of concern given the potential risk for human and animal exposure and disease transmission. Euthanasia is recommended in the following situations:

- ; All animals showing clinical signs suspicious of rabies
- ; Non-vaccinated in-contact animals
- ; In-contact animals showing evidence of a bite injury

If in-contact animals are not euthanased, the recommended observation period is 10 days.

Vaccination policy

According to the Lithuanian National Rabies prevention programme, vaccination of dogs and cats is compulsory and all domestic animals are vaccinated after contact with rabies-suspected animals.

The total number of vaccines given to dogs and cats has been increasing slightly since 1994, with approximately 203,570 vaccines administered to dogs and 29,540 to cats in 2004. Vaccination coverage of dogs is widely reported to be about 70% for dogs (similar to the ~ 65% levels reported to WHO, 1994) and 20% for cats (higher than the ~1% figure reported to WHO, 1994).

Each local community is responsible for stray animal control, with municipality regulations in place for capture of stray dogs and cats. Any dog or cat roaming around a community without a collar is deemed to be a stray and may be captured (usually with nets) and held in an animal shelter for 3-4 days while attempts are made to locate the owner (who bears any costs of the capture). If owners cannot be traced, the shelter will attempt to re-home the animal and, if unsuccessful, the animal will be euthanased. In Vilnius, the number of captured animals exceeds 150 dogs and 300 cats per month, with many kittens being brought in by the public. Stray animal control appears to operate in all the larger cities and municipalities in Lithuania.

Table Rabies in animals

	Source of information	Sampling unit	Units tested	Total units positive for Lyssavirus (rabies)	unspecified lyssavirus
Cattle (bovine animals)	SFVS	Animal	272	146	
Sheep	SFVS	Animal	1	1	
Goats	SFVS	Animal	4	0	
Pigs	SFVS	Animal	1	1	
Solipeds, domestic	SFVS	Animal	15	8	
Dogs	SFVS	Animal	361	92	
Cats	SFVS	Animal	270	92	
Foxes					
wild	SFVS	Animal	778	533	
Raccoon dogs					
wild	SFVS	Animal	750	599	
Wolves					
wild	SFVS	Animal	1	0	
Badgers					
wild	SFVS	Animal	10	8	
Marten					
wild	SFVS	Animal	225	114	
Wild boars					
wild	SFVS	Animal	3	0	
Deer					
wild					
roe deer	SFVS	Animal	41	4	
Polecats					
wild	SFVS	Animal	134	43	
Squirrels					
wild	SFVS	Animal	3	1	
Otter	SFVS	Animal	4	2	
Beavers					
wild	SFVS	Animal	19	5	

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 isolates

4. FOODBORNE OUTBREAKS

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

A. Foodborne outbreaks

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

In case of foodborne outbreak occurs territorial Public Health Centre informs Centre for Communicable Diseases Prevention and Control (CCDPC) and territorial State Food and Veterinary Services by phone in 2 hours, by fax or e-mail in 12 hours. CCDPC as soon as possible sends information about the outbreak to the Ministry of Health and State Public Health Service, informs Media.

Territorial Public Health Centres and territorial State Food and Veterinary Services investigate an outbreak and organize relevant measures. CCDPC also gives methodological help. Microbiological investigation of specimens from suspected cases and sick people is performed in microbiology laboratories of hospitals and Public Health Centres; samples of suspected food - in laboratories of State Food and Veterinary Service. 10 days after outbreak territorial public health institution sends final outbreak investigation material to CCDPC. Health minister's orders regulate information providing on outbreaks and their investigation rules.

Description of the types of outbreaks covered by the reporting:

38 foodborne outbreaks have been investigated in 2005: 26 outbreaks of salmonellosis, 1 - of trichinellosis, 3 of shigellosis, 2 of campylobacteriosis, 2 of *Y. enterocolitica* and 4 of unknown agent. 17 (44,7%) outbreaks outspread from homemade food, 21 (55,3%) - general outbreaks outspread in kindergardens and schools, canteens, coffee-bars, and also they were related with food acquired in food trading enterprises.

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

425 cases got sick of food borne outbreaks, 265 patients were hospitalised.

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

26 (68,4%) of 38 food borne outbreaks had the reason of *S. enteritidis*, 4 (10,5%) - unknown agent, 3 (7,9%) - *S. sonnei*, 2 (5,3%) - campylobacter, 2 (5,3%) - *Y. enterocolitica*, 1 (2,6%) - trichinella.

19 (73,1%) of 26 salmonellosis outbreak outspread through poultry, eggs and its products, cream products with raw eggs, 2 (7,7%) - through other food, and for 5 (19,2%) outbreaks reason wasn't detected.

Trichinellosis outbreak outspread through pork.

S. sonnei outbreaks outspread through unpasteurised milk and its products.

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

20 (52,6%) of 38 outbreaks occurred due to homemade food, 3 (7,9%) - due to food acquired in a retail store, 4 (10,5%) - in kindergartens, 8 (21,1%) - in canteens, coffee-bars, restaurants and 3 (7,9%) - in other places.

Descriptions of single outbreaks of special interest

1) On 18 July the Centre for Communicable Diseases Prevention and Control has been notified of gastrointestinal illness acquired in Trade-union training and research institute's sanatorium, Druskininkai. From 16 July till 17 July there were registered 20 cases of food toxic infection (A 05.9).

Among all of cases, 12 were citizens of Israel, 5 Polish citizens and 3 Lithuanian citizens. 1 patient was hospitalised and others were sent to be treated as outpatients.

Concrete food intoxication risk factor was not identified. Approximately 400 persons lived in this sanatorium, 300 of them ate at the same canteen.

State food and veterinary service officers stated defects that could have caused unsafe food in the sanatorium: violation of food preparing technology, unwarranted self-control system, and staff handling food did not follow personal hygiene requirements.

2) In Vilnius from 6 October till 26 of October have been reported 53 cases of acute intestinal infections. From 43 patients *Shigella sonnei* have been isolated. 32 patients were hospitalized. Case-control study for outbreak investigation was performed. 52 cases and 73 controls were surveyed by uniform questionnaire.

The cause of the outbreak was unpasteurized milk products, produced in small dairy and realized at Kalvariju market. By performed case-control study was deduced that OR of curd consumption 407,95; 95% CI [469,2-33364,1], OR of sour cream consumption 13,45; 95% CI [1,62-111,21]. Since 21-10-2005 realisation and production of milk products was prohibited.

On the basis of patients survey data these milk products were used without any additional thermal processing. *Shigella sonnei* isolated from patients was of the same type and sensitive to the same antibiotics. The same type of *Shigella sonnei* was isolated from farmer's daughter who trades milk products.

3) 23 cases of salmonellosis (*Salmonella Enteritidis*) were related to coffee-bar in Traku region. Related cases were registered in 7 territorial administrations of Lithuania. On 25 and 26 November there were two parties at coffee-bar. In one party participated 35 in other party 38 persons. For two parties was prepared the same menu. There were served up many dishes of chicken, many salads.

Centre for communicable diseases prevention and control used cohort study for outbreak risk factors detection. Public health specialists in 7 territorial administrations questioned 73 persons at risk. By cohort study results, roast chicken RR 4,66, 95% CI [1,71-12,7], $p < 0,05$; salad of rice and crabs RR 7,96, 95% CI [1,24-50,7], $p < 0,05$.

Coffee-bar work was suspended for a time. During inspection food and veterinary service officers deduced that in production process and wasn't following personal hygiene requirements.

During outbreak investigation from coffee-bar were taken 2 food samples in National

veterinary laboratory and was detected growing of *S. Enteritidis*.

Table 12. Foodborne outbreaks in humans

Causative agent	General outbreak	Family outbreak	Total Number in persons			Source	Confirmed		Type of evidence	Location of exposure	Contributing factors
			ill	died	in hospital		Suspected	Confirmed			
1	2	3	4	5	6	7	8	9	10		
Unknown	G		7	0	3	unknown	S			restaurant	prep. food in advance, deficiency in food handling
Unknown	G		19	0	19	sauce		C	epidemiology (case-control study)	hospital	deficiency in food handling
Trichinella		F	8	0	8	pork		C	laboratory	private home	carcass meat not tested for trichinas
Unknown	G		18	0	10	chicken dishes		C	epidemiology (case-control study)	canteen	inadequate heating
Campylobacter, thermophilic		F	2	0	2	chicken	S			private home	inadequate heating
Unknown	G		20	0	1	unknown	S			hotel	violations of food preparing technology, unwarranted self-control system, deficiency in food handling
Campylobacter, thermophilic		F	2	0	2	chicken	S			private home	inadequate heating
Salmonella - S. Enteritidis	G		5	0	4	unknown	S			kindergarten	inadequate heating, deficiency in food handling, cross contamination
Salmonella - S. Enteritidis		F	3	0	3	cocktail with row eggs	S			private home	using contam. ingredient
Salmonella - S. Enteritidis		F	3	0	3	chicken	S			private home	inadequate heating
Salmonella - S. Enteritidis		F	3	0	3	chicken products	S			private home	inadequate heating
Salmonella - S. Enteritidis	G		20	0	6	unknown	S			canteen	inadequate heating, deficiency in food handling, cross contamination
Salmonella - S. Enteritidis		F	3	0	3	eggs products	S			private home	inadequate heating

Salmonella - S. Enteritidis	G		33	0	20	roast chicken, salad of rise and crabs	C	laboratory, epidemiology (cohort study)	coffee-bar	food was prepared in contravention of self-control principles in production progress
Salmonella - S. Enteritidis		F	3	0	0	milk cocktail with row eggs	S		private home	using contam. ingredient
Salmonella - S. Enteritidis		F	4	0	4	whip with row eggs	S		private home	using contam. ingredient
Salmonella - S. Enteritidis		F	5	0	3	milk curd with row eggs	S		private home	using contam. ingredient
Salmonella - S. Enteritidis	G		36	0	26	chicken products		C	canteen	inadequate heating, deficiency in food handling, cross contamination
Salmonella - S. Enteritidis	G		27	0	5	eggs products	S		school-kindergarten	inadequate heating, deficiency in food handling, cross contamination
Salmonella - S. Enteritidis	G		8	0	8	milk curd with raw eggs		C	private party	using contam. ingred., deficiency in food handling
Salmonella - S. Enteritidis	G		7	0	6	farsi salmon, chicken, salads		C	camping	inadequate heating, deficiency in food handling, cross contamination
Salmonella - S. Enteritidis	G		50	0	38	chicken product	S		canteen	inadequate heating, deficiency in food handling
Salmonella - S. Enteritidis	G		7	0	7	unknown	S		kindergarten	unknown
Salmonella - S. Enteritidis	G		7	0	3	unknown	S		kindergarten	unknown
Salmonella - S. Enteritidis		F	5	0	4	unknown	S		private home	unknown
Salmonella - S. Enteritidis	G		6	0	3	chicken	S		private party	inadequate heating, deficiency in food handling
Salmonella - S. Enteritidis	G		10	0	6	fish roasted		C	canteen	cross contamination, deficiency in food handling
Salmonella - S. Enteritidis	G		4	0	2	cakes with cream	S		retail store	unknown
Salmonella - S. Enteritidis	G		18	0	1	chicken product, salads		C	coffee-bar	inadequate heating, deficiency in food handling, cross contamination
Salmonella - S. Enteritidis		F	5	0	5	roast chicken	S		private home	inadequate heating
Salmonella - S. Enteritidis		F	3	0	3	eggs	S		private home	inadequate heating

Salmonella - S. Enteritidis	G		11	0	10	cakes	C	laboratory, epidemiology (case-control study)	retail story	deficiency in food handling
Salmonella - S. Enteritidis	G		7	0	0	chicken product	C	epidemiology (cohort study)	private party	inadequate heating, deficiency in food handling, improper storage
Yersinia - Y. enterocolitica		F	3	0	3	fresh vegetables	S		private home	unknown
Yersinia - Y. enterocolitica		F	2	0	2	unknown	S		private home	unknown
Shigella - S. sonnei	G		10	0	5	unpasteurized milk products			private home	contamination by infected person, deficiency in food handling
Shigella - S. sonnei	G		5	0	4	unpasteurized milk products	C	epidemiology (case-control study)	private home	contamination by infected person, deficiency in food handling
Shigella - S. sonnei	G		53	0	32	unpasteurized milk products	C	epidemiology (case-control study)	retail store	contamination by infected person, deficiency in food handling

Footnote

G - general outbreak
F - family outbreak
S - source was suspected
C - source was confirmed