European Food Safety Authority

ZOONOSES MONITORING

LUXEMBOURG

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 2008

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: **Luxembourg**

Reporting Year:

Laboratory name	Description	Contribution
Laboratoire de Médecine Vétérinaire de l`Etat (LMVE)	Animal health and zoonoses laboratory under the ministery of agriculture	Reporting of zoonoses in animals and in food from animal origin (meat)
Laboratoire Nationale de la Santé (LNS)	Human Health Laboratory under the ministery of health	Reporting of human zoonoses
Inspection Sanitaire (IS)	Administration of preventive medecine under the ministeryof health	Reporting of human zoonoses
Laboratoire d`Essai (ASTA)	Administration des services techniques de l`Agriculture - Contrôle des aliments pour animaux	Reporting of zoonoses in feedingstuff
Veterinary and Agrochemical Research Centre	National belgian and luxemburgish Reference Laboratory	Confirmation of tests from Luxembourg
Scientific Institute of Public Health, Brussels	Belgian National Reference Institute for zoonoses	Confirmation of tests from Luxembourg

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 Luxembourg during the year 2008 .

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

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

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

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

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

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1. ANIMAL POPULATIONS

The relevance of the findings on zoonoses and zoonotic agents has to be related to the size and nature of the animal population in the country.

A. Information on susceptible animal population

Sources of information:

The Luxemburgish State statistical Institute Statec,given by the SEG (Service d'économie rurale)

Table Susceptible animal populations

Footnote:

The data of susceptible animals are the same than the year before (2007)

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 Salmonellosis in humans

Table Salmonella in humans - Species/serotype distribution

Salmonella	Cases	Cases Inc.	Autochthon cases	Autochthon Inc.	Imported cases	Imported Inc.	Unknown status
	102	0	0	0	0	0	102
S. Enteritidis	56						56
S. Typhimurium	46						46

Table Salmonella in humans - Age distribution

Age Distribution	S. Enteritidis			S. Typhimurium			Salmonella spp.		
	All	M	F	All	M	F	All	M	F
<1 year	3	1	2	1	1	0	6	1	1
1 to 4 years	15	11	4	17	8	9	39	4	3
5 to 14 years	16	5	11	12	5	7	39	6	5
15 to 24 years	5	4	1	1	0	1	9	2	1
25 to 44 years	4	2	2	1	0	1	16	8	3
45 to 64 years	5	1	4	10	5	5	24	5	4
65 years and older	8	4	4	4	3	1	24	4	8
Total:	56	28	28	46	22	24	157	30	25

Table Salmonella in humans - Seasonal distribution

Month	S. Enteritidis	S. Typhimurium	Salmonella spp.
	Cases	Cases	Cases
January	1	5	7
February	1	0	4
March	2	0	3
April	3	6	15
May	2	2	6
June	4	5	15
July	5	8	19
August	13	6	25
September	18	6	31
October	5	4	11
November	2	4	16
December	0	4	5
Total:	56	50	157

2.1.3 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 spp.	S. Enteritidis	S. Hadar	S. Infantis	S. Paratyphi B	S. Typhimurium	Salmonella spp., unspecified
Meat from broilers (Gallus gallus) - fresh - at retail - Monitoring	LMVE	single	25 g	101	6		1	3	1	1	
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Monitoring	LMVE	single	25 g	16	0						
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Monitoring	LMVE	single	25 g	18	0						
Meat from turkey - fresh - at retail - Monitoring	LMVE	single	25 g	28	1		1				
Meat from turkey - meat preparation - intended to be eaten cooked - at retail - Monitoring	LMVE	single	25 g	5	0						
Meat from turkey - meat products - raw but intended to be eaten cooked - at retail - Monitoring	LMVE	single	25 g	2	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Meat from bovine animals - fresh - at retail - Monitoring	LMVE	single	25 g	5	0			
Meat from bovine animals - meat preparation - intended to be eaten raw - at retail - Monitoring	LMVE	single	25 g	1	0			
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - Monitoring	LMVE	single	25 g	8	0			
Meat from bovine animals - meat products - cooked, ready-to-eat - at retail - Monitoring	LMVE	single	25 g	2	0			
Meat from bovine animals - meat products - raw but intended to be eaten cooked - at retail - Monitoring	LMVE	single	25 g	2	0			
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Monitoring	LMVE	single	25 g	217	0			
Meat from bovine animals and pig - at retail - Monitoring (meat preparation)	LMVE	single	25 g	118	2		2	
Meat from bovine animals and pig - at retail - Monitoring (meat product, intended to be eaten raw)	LMVE	single	25 g	122	1		1	
Meat from bovine animals and pig - at retail - Monitoring (meat product,intende to be eaten cooked)	LMVE	single	25 g	27	0			
Meat from bovine animals and pig - at retail - Monitoring (minced meat intended to be eaten raw)	LMVE	single	25 g	46	1		1	
Meat from bovine animals and pig - at retail - Monitoring (minced meat)	LMVE	single	25 g	12	0			
Meat from bovine animals and pig - at retail - Monitoring (minced meat, raw, but intended to be eaten cooked)	LMVE	single	25 g	34	0			

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Meat from pig - fresh - at retail - Monitoring	LMVE	single	25 g	5	0			
Meat from pig - meat preparation - intended to be eaten raw - at retail - Monitoring	LMVE	single	25 g	1	0			
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Monitoring	LMVE	single	25 g	26	0			
Meat from pig - meat products - cooked, ready-to -eat - at retail - Monitoring	LMVE	single	25 g	10	1		1	
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Monitoring	LMVE	single	25 g	178	0			

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Eggs - table eggs - at retail - Monitoring	LMVE	single	25 g	2	0			

2.1.4 Salmonella in animals

Table Salmonella in other poultry

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling (Decision 2007/516 CE; one carcass per flock, 4 times)	4	LMVE	slaughter	12	0			
Gallus gallus (fowl) - laying hens - at farm - environmental sample - dust - Monitoring - industry sampling - objective sampling (7 exploitations with> 1000 laying hens)	7	LMVE	flock	28	1		1	
Pigeons - Monitoring	2	LMVE	single	2	0			
Turkeys - meat production flocks - at farm - animal sample - Monitoring	1	LMVE	single	1	0			

Footnote:

Remark:
Broilers:One exploitation was sampled at slaughterhouse outside the programme.
10 caeca were analysed separately
8 were positive for salmonella Newport
Laying hens
We have at all 7 laying hen farms with >1000 hens
Aln 7 flocks were analysed 3 times last year by the farmers (industrial sampling) and one time by the competent authority (official sampling)
That explains the difference between 7 flocks and 28 units tested

Table Salmonella in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella spp.	S. Derby	S. Dublin	S. Eboko	S. Enteritidis	S. Infantis	S. Typhimurium	Salmonella spp., unspecified
Cattle (bovine animals) - at farm - Monitoring (feces and organs) [1)]	LMVE	animal	81	3						3	
Pigs - breeding animals - at farm - environmental sample - boot swabs - Monitoring - official sampling (10 pens/exploitation were sampled) [2)]	LMVE	herd	44	10	7	1			1	1	
Pigs - fattening pigs - - lymph nodes - Survey - national survey (Following the baseline survey of 2006) [3)]	LMVE	animal	148	12			1			10	

	S. enterica, monophasic
Cattle (bovine animals) - at farm - Monitoring (feces and organs) [1)]	
Pigs - breeding animals - at farm - environmental sample - boot swabs - Monitoring - official sampling (10 pens/exploitation were sampled) [2)]	
Pigs - fattening pigs - - lymph nodes - Survey - national survey (Following the baseline survey of 2006) [3)]	1

Comments:

[1)] 81
[2)] 44
[3)] 148

Footnote:

A.In the baseline survey in breeding pigs
1. One exploitation is a multiplier farm

48 farms are production farms with more than 30 breeding sows
4 farms stopped at the beginning of the survey

B.Lymph nodes and carcass swabs were taken from slaughter pigs following the baseline survey from 2007
19 farms were involved

2.1.5 Salmonella in feedingstuffs

Table Salmonella in other feed matter

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Feed material of oil seed or fruit origin - rape seed derived	ASTA	batch	25 g	1	0			
Feed material of oil seed or fruit origin - soya (bean) derived	ASTA	batch	25 g	10	0			

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Compound feedingstuffs for cattle - final product - Monitoring - official sampling	ASTA	batch	25 g	35	0			
Compound feedingstuffs for horses - Monitoring - official sampling	ASTA	batch	25 g	3	0			
Compound feedingstuffs for pigs - final product - Monitoring - official sampling	ASTA	batch	25 g	32	1			1
Compound feedingstuffs for poultry (non specified) - final product - Monitoring - official sampling	ASTA	batch	25 g	29	0			
Compound feedingstuffs for rabbits - Monitoring - official sampling	ASTA	batch	25 g	4	0			
Compound feedingstuffs for sheep - Monitoring - official sampling	ASTA	batch	25g	1	0			
Compound feedingstuffs, not specified - Monitoring - official sampling (for wild animals)	ASTA	batch	25 g	1	0			

2.1.6 Salmonella serovars and phagetype distribution

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

Table Salmonella serovars in animals

Serovars	Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Other poultry	
Sources of isolates	**Monitoring**	**Clinical**	**Monitoring**	**Clinical**	**Monitoring**	**Clinical**	**Monitoring**	**Clinical**
Number of isolates in the laboratory								
Number of isolates serotyped	**3**	**0**	**21**	**0**	**0**	**0**	**1**	**0**
Number of isolates per serovar								
S. Derby			7					
S. Dublin			1					
S. Eboko			1					
S. Infantis			1					
S. Typhimurium	3		11				1	

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 bovine animals and pig	
Sources of isolates	**Monitoring**	**Clinical**	**Monitoring**	**Clinical**	**Monitoring**	**Clinical**	**Monitoring**	**Clinical**	**Monitoring**	**Clinical**	**Monitoring**	**Clinical**
Number of isolates in the laboratory												
Number of isolates serotyped	**0**	**0**	**1**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**4**	**0**
Number of isolates per serovar												
S. Hadar							1					
S. Infantis							3					
S. Typhimurium			1				1				4	
S. Paratyphi B var. Java							1					

2.1.7 Antimicrobial resistance in Salmonella isolates

Table Antimicrobial susceptibility testing of S. Derby - qualitative data

S. Derby		Pigs - - faeces	
Isolates out of a monitoring program (yes/no)		yes	
Number of isolates available in the laboratory		11	
Antimicrobials:		N	n
Aminoglycosides	Gentamicin	9	2
	Neomycin	2	4
	Streptomycin	0	11
Amphenicols	Chloramphenicol	11	0
Cephalosporins	3rd generation cephalosporins	1	0
Penicillins	Ampicillin	11	0
Polymyxins	Polymyxins	5	3
Sulfonamides	Sulfonamide	1	5
Tetracyclines	Tetracyclin	2	9
Trimethoprim + sulfonamides	Trimethoprim + Sulfabromomethazin	11	0

Table Antimicrobial susceptibility testing of S.Typhimurium in animals

S. Typhimurium		Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Turkeys		Gallus gallus (fowl) - laying hens		Gallus gallus (fowl) - broilers	
Isolates out of a monitoring program (yes/no)				yes		yes							
Number of isolates available in the laboratory				11		3							
Antimicrobials:		N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides	Gentamicin			9	2	3	0						
	Neomycin			4	7								
	Streptomycin			3	8	0	3						
Amphenicols	Chloramphenicol			6	5	3	0						
Cephalosporins	3rd generation cephalosporins			2	5	3	0						
Penicillins	Ampicillin			4	7	3	0						
Polymyxins	Polymyxins			4	3	3	0						
Sulfonamides	Sulfonamide			3	8	3	0						
Tetracyclines	Tetracyclin			4	7	3	0						
Trimethoprim + sulfonamides	Trimethoprim + sulfonamides			10	1	3	0						

Footnote:

In general it can be concluded, that the antimicrobial resistance pattern is restricted to the part of pig farms; it means that multiresistant strains derive from pigs, and those coming from poultry are not multiresistant

Table Breakpoints for antibiotic resistance testing

Test Method Used	
Disc diffusion	◉
Agar dilution	○
Broth dilution	○
E-test	○

Standards used for testing
NCCLS

			Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		Disk content	Breakpoint Zone diameter (mm)		
		Standard for breakpoint	Susceptible <=	Intermediate	Resistant >	lowest	highest	microg	Susceptible >=	Intermediate	Resistant <=
Aminoglycosides	**Gentamicin**							10	15	14	12
	Kanamycin							30	18	17	13
	Neomycin							120	25	24	20
	Streptomycin							10	15	14	11
Amphenicols	**Chloramphenicol**							30	18	17	12
	Florfenicol							30	20	19	16
Cephalosporins	**3rd generation cephalosporins**							60	23	22	19
Fluoroquinolones	**Ciprofloxacin**							5	21	20	15
	Enrofloxacin							10	23	22	16
Penicillins	**Ampicillin**							10	17	16	13
Quinolones	**Nalidixic acid**							30	19	18	13
Sulfonamides	**Sulfonamide**							240	23	22	19
Tetracyclines	**Tetracyclin**							30	15	14	11
Trimethoprim	**Trimethoprim**							5	16	15	10

2.2 CAMPYLOBACTERIOSIS

2.2.1 General evaluation of the national situation

2.2.2 Campylobacteriosis in humans

Table Campylobacter in humans - Age distribution

Age Distribution	C. coli			C. jejuni			Campylobacter spp., unspecified		
	All	M	F	All	M	F	All	M	F
<1 year	2	2	0	10	5	5	0	0	0
1 to 4 years	4	4	0	37	19	18	0	0	0
5 to 14 years	4	1	3	45	27	18	0	0	0
15 to 24 years	6	3	3	56	26	30	1	1	
25 to 44 years	13	5	8	117	68	49	0	0	0
45 to 64 years	9	5	5	79	51	28	0	0	0
65 years and older	11	3	7	46	22	24	0	0	0
Total:	49	23	26	390	218	172	1	1	0

Table Campylobacter in humans - Seasonal distribution

Month	C. coli	C. jejuni	Campylobacter spp., unspecified
	Cases	Cases	Cases
January	5	36	41
February	3	25	29
March	2	19	21
April	5	32	37
May	2	38	40
June	4	46	50
July	3	33	36
August	2	45	47
September	8	32	40
October	6	26	32
November	3	33	36
December	6	25	31
Total:	49	390	440

2.2.3 Campylobacter 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. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified	Campylobacter spp., unspecified
Meat from broilers (Gallus gallus) - fresh - at retail - Monitoring	LMVE	single	10 g	122	60	32	26			1	1

Footnote:

The case positive for campylobacter spp contained as well C. coli as C.jejuni

2.2.4 Campylobacter in animals

Table Campylobacter in animals

	Source of information	Sampling unit	Units tested	Total units positive for thermophilic Campylobacter spp.	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Gallus gallus (fowl) - broilers - at farm - Monitoring - official sampling (Commission Decision 2007/516/EC) [1)]	LMVE	batch	4	4	4				
Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (Commission Decision 2007/516/EC) [2)]	LMVE	flock	4	4	3	1			

Comments:

[1)] carcass
[2)] Pooling of 10 caeca

Footnote:

Luxembourg does not have internationally recognized slaughterhouses.
The broilers are slaughtered at the farm (the indication slaughtewrhouse was maintained in order to specify the sampling procedure!).
So sampling was realised at the 4 farms who have more than 1000 broilers
Sampling was done at the finishing period (80 days)
The farms were sampled 4 times during the year
Results:
All farms were allways positive
In one farm simultanously C.coli and C.jejuni were found.

2.2.5 Antimicrobial resistance in Campylobacter isolates

Table Antimicrobial susceptibility testing of C. coli - qualitative data

C. coli		Gallus gallus (fowl) - at slaughterhouse	
Isolates out of a monitoring program (yes/no)		yes	
Number of isolates available in the laboratory		9	
Antimicrobials:		N	n
Aminoglycosides	Gentamicin	9	0
Fluoroquinolones	Ciprofloxacin	1	8
Macrolides	Erythromycin	8	0
Penicillins	Ampicillin	3	6
Quinolones	Nalidixic acid	1	8
Tetracyclines	Tetracyclin	0	10
Trimethoprim	Trimethoprim	0	9
Trimethoprim + sulfonamides	Trimethoprim + sulfonamides	1	7

Table Antimicrobial susceptibility testing of C. jejuni - qualitative data

C. jejuni		Gallus gallus (fowl) - at slaughterhouse	
Isolates out of a monitoring program (yes/no)		yes	
Number of isolates available in the laboratory		1	
Antimicrobials:		N	n
Aminoglycosides	Gentamicin	1	0
Fluoroquinolones	Ciprofloxacin	1	0
Macrolides	Erythromycin	1	0
Penicillins	Ampicillin	0	1
Quinolones	Nalidixic acid	1	0
Tetracyclines	Tetracyclin	0	1
Trimethoprim	Trimethoprim	0	1
Trimethoprim + sulfonamides	Trimethoprim + sulfonamides	1	0

Table Breakpoints used for antimicrobial susceptibility testing

Test Method Used	
Disc diffusion	◉
Agar dilution	○
Broth dilution	○
E-test	○

Standards used for testing
NCCLS

			Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		Disk content	Breakpoint Zone diameter (mm)		
		Standard for breakpoint	Susceptible <=	Intermediate	Resistant >	lowest	highest	microg	Susceptible >=	Intermediate	Resistant <=
Aminoglycosides	**Gentamicin**							10	16	15	14
Fluoroquinolones	**Ciprofloxacin**							5	25	24	21
Macrolides	**Erythromycin**							15	22	21	17
Penicillins	**Ampicillin**							10	19	18	14
Quinolones	**Nalidixic acid**							30	20	18	15
Tetracyclines	**Tetracyclin**							30	19	18	17

2.3 LISTERIOSIS

2.3.1 General evaluation of the national situation

2.3.2 Listeriosis in humans

Table Listeria in humans - Species/serotype distribution

Listeria	Cases	Cases Inc.
	0	0
Congenital cases	1	

Table Listeria in humans - Age distribution

Age Distribution	Listeria spp.		
	All	M	F
<1 year	1		1
Total:	1	0	1

2.3.3 Listeria in foodstuffs

Table Listeria monocytogenes in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L.monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from bovine animals - meat products - cooked, ready-to-eat - at retail - Monitoring	LMVE	single	25 g	239	70			239	69	1
Meat from bovine animals and pig - at retail - Monitoring	LMVE	single	25 g	330	170			330	169	1
Meat from broilers (Gallus gallus) - fresh - at retail - Monitoring	LMVE	single	25 g	20	6			20	6	0
Meat from pig - fresh - at retail - Monitoring	LMVE	single	25 g	223	28			223	28	0
Meat from turkey - at retail - Monitoring	LMVE	single	25 g	35	4			35	4	0

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

2.4.2 E. coli infections in humans

2.4.3 Escherichia coli, pathogenic in animals

2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1 General evaluation of the national situation

2.5.2 Tuberculosis, mycobacterial diseases in humans

Table Mycobacterium in humans - Species/serotype distribution

Mycobacterium	Cases	Cases Inc.	Autochthon cases	Autochthon Inc.	Imported cases	Imported Inc.
	34	0	34	0	0	0
M. bovis	0		0			
M. tuberculosis	34		34			
Reactivation of previous cases	0		0			

Table Mycobacterium in humans - Age distribution

Age Distribution	M. tuberculosis		
	All	M	F
<1 year	0	0	0
1 to 4 years	0	0	0
5 to 14 years	0	0	0
15 to 24 years	6	1	5
25 to 44 years	16	12	4
45 to 64 years	8	5	3
65 years and older	4	1	3
Total:	34	19	15

2.5.3 Mycobacterium in animals

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

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 examinations	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			
Luxembourg (Grand-Duché)	1479	191928	1479	100	0	0	0	0	0	0	0
Total	1479	191928	1479	100.0	0	0.0	0	0	0	0	0
Total - 1											

Footnote:

Luxembourg is OTF through decision 97/76/CE from 17.12.1996 and is confirmed through decision 1999/467/CE from 15.07.1999
The sanitary status is maintained in 2008 by respecting the dispositions of annex of grand ducal reglement from 20.08.1999 concerning sanitary problems in intra-communautary exchanges of animals from the bovine and porcine species: the pourcentage of infected bovine herds with tuberculosis was not superior to 0,1% per year during 6 consecutive years
An identification system exists following CE reglement n°1760/2000.
All slaughtered bovine are submitted to post mortem inspection, and np case of tuberculoses was detected

2.6 BRUCELLOSIS

2.6.1 General evaluation of the national situation

2.6.2 Brucellosis in humans

Table Brucella in humans - Species/serotype distribution

Brucella	Cases	Cases Inc.	Autochthon cases	Autochthon Inc.	Imported cases	Imported Inc.
	0	0	0	0	0	0
B. abortus	0					
B. melitensis	0					
B. suis	0					
Occupational cases	0					

Table Brucella in humans - Age distribution

Age Distribution	Brucella spp.		
	All	M	F
<1 year	0		
1 to 4 years	0		
5 to 14 years	0		
15 to 24 years	0		
25 to 44 years	0		
45 to 64 years	0		
65 years and older	0		
Total:	0	0	0

2.6.3 Brucella in animals

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			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 microbiologically	Number of animals positive microbiologically
																		Sero logically	BST		
Luxembourg (Grand-Duché)	1479	191928	1479	100	0	0		679	0	868	868	0	0	0	0	0	0	0	0	0	0
Total	1479	191928	1479	100.0	0	0.0	0	679	0	868	868	0	0	0	0	0	0	0	0	0	0
Total - 1																					

Footnote:

Luxembourg is OBF through decision 99/466/CE from 15.07.1999
In 2007, no case of brucelloses was detected and it is the 13th year since there was no focus of bovine brucelloses. Continous prevention and control measures are applied to garantee the status
868 dairy herds were analysed in bulk tank milk with negative results
679 rearing bovines over 12 months of age were tested negative

2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

2.7.2 Yersiniosis in humans

Table Yersinia in humans - Species/serotype distribution

Yersinia	Cases	Cases Inc.	Autochthon cases	Autochthon Inc.	Imported cases	Imported Inc.
	17	0	0	0	0	0
Y. enterocolitica	1					
Yersinia spp., unspecified	16					
Unknown status	17					

Table Yersinia in humans - Age distribution

Age Distribution	Y. enterocolitica			Yersinia spp.		
	All	M	F	All	M	F
<1 year	0	0	0	1	0	1
1 to 4 years	0	0	0	3	2	1
5 to 14 years	0	0	0	3	1	2
15 to 24 years	0	0	0	1	1	0
25 to 44 years	0	0	0	3	1	2
45 to 64 years	0	0	0	3	2	1
65 years and older	1	0	1	3	1	2
Total:	1	0	1	17	8	9

2.7.3 Yersinia in animals

2.8 TRICHINELLOSIS

2.8.1 General evaluation of the national situation

2.8.2 Trichinellosis in humans

Table Trichinella in humans - Age distribution

Age Distribution	Trichinella spp.		
	All	M	F
<1 year	0		
1 to 4 years	0		
5 to 14 years	0		
15 to 24 years	0		
25 to 44 years	0		
45 to 64 years	0		
65 years and older	0		
Total:	0	0	0

2.8.3 Trichinella in animals

Table Trichinella in animals

	Source of information	Sampling unit	Units tested	Total units positive for Trichinella spp.	T. spiralis	Trichinella spp., unspecified
Foxes - from hunting - Monitoring (diaphragm) [1)]	LMVE+LSGV	single	20	0		
Pigs - fattening pigs - not raised under controlled housing conditions in integrated production system - at slaughterhouse - Monitoring - industry sampling (diaphragm) [2)]		batch	2305	0		
Solipeds, domestic - horses - at retail - imported - Monitoring (Fresh Meat) [3)]		single	24	0		
Wild boars - wild - at game handling establishment - Monitoring (diaphragm) [4)]		single	877	0		

Comments:

[1)] digestion technique
[2)] Digestion technique
[3)] Digestion Technique
[4)] Digestion technique

Footnote:

One sample of wild boar was doubtfull, but could not be confirmed.
Wild boar carcasses destinated for human consumption are systematically frozen before beeing treated in the cutting plant
The technique is followed by the directives of the CE reglementation.
All samples are tested after pooling. They are not analysed on single samples

2.9 ECHINOCOCCOSIS

2.9.1 General evaluation of the national situation

2.9.2 Echinococcosis in humans

Table Echinococcus in humans - Species/serotype distribution

Echinococcus	Cases	Cases Inc.	Autochthon cases	Autochthon Inc.	Imported cases	Imported Inc.
	0	0	0	0	0	0
Echinococcus spp.	0					

2.9.3 Echinococcus in animals

Table Echinococcus in animals

	Source of information	Sampling unit	Units tested	Total units positive for Echinococcus spp.	E. granulosus	E. multiloculari s	Echinococcus spp., unspecified
Foxes - from hunting - Survey (feces) [1)]	LSGV	single	20	2		2	

Comments:

[1)] Microscopy+PCR

2.10 TOXOPLASMOSIS

2.10.1 General evaluation of the national situation

2.10.2 Toxoplasmosis in humans

Table Toxoplasma in humans - Species/serotype distribution

Toxoplasma	Cases	Cases Inc.
	1	0
Toxoplasma spp.	1	

Table Toxoplasma in humans - Age distribution

Age Distribution	Toxoplasma spp.		
	All	M	F
<1 year	0	0	0
1 to 4 years	0	0	0
5 to 14 years	0	0	0
15 to 24 years	0	0	0
25 to 44 years	0	0	0
45 to 64 years	1	1	0
65 years and older	0	0	0
Total:	1	1	0

2.11 RABIES

2.11.1 General evaluation of the national situation

2.11.2 Rabies in humans

2.11.3 Lyssavirus (rabies) in animals

Table Rabies in animals

	Source of information	Sampling unit	Units tested	Total units positive for Lyssavirus (rabies)	Unspecified Lyssavirus	Classical rabies virus (genotype 1)	European Bat Lyssavirus - unspecified
Cats - in total - Clinical investigations [1)]	LMVE,ISP	single	4	0			
Cattle (bovine animals) - at farm - Clinical investigations (Ammons horn+bulbus) [2)]	LMVE,ISP	single	7	0			
Foxes - wild - from hunting - Monitoring (brain (Ammon's horn+bulbus)) [3)]	LMVE,LSGV,	single	20	0			

Comments:

[1)] Isolation + immunofluorescence
[2)] Isolation + immunofluorescence
[3)] isolation+immunofluorescence

2.12 Q-FEVER

2.12.1 General evaluation of the national situation

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ENTEROCOCCUS, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

3.2 ESCHERICHIA COLI, NON-PATHOGENIC

3.2.1 General evaluation of the national situation

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 HISTAMINE

4.1.1 General evaluation of the national situation

4.1.2 Histamine in foodstuffs

4.2 ENTEROBACTER SAKAZAKII

4.2.1 General evaluation of the national situation

4.2.2 Enterobacter sakazakii in foodstuffs

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

4.3.2 Staphylococcal enterotoxins in foodstuffs

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.

Foodborne Outbreaks: summarized data

	Total number of outbreaks	Outbreaks	Human cases	Hospitalized	Deaths	Number of verified outbreaks
Bacillus	0	0	unknown	unknown	unknown	0
Campylobacter	1	1	unknown	unknown	unknown	0
Clostridium	0	0	unknown	unknown	unknown	0
Escherichia coli, pathogenic	0	0	unknown	unknown	unknown	0
Foodborne viruses	0	0	unknown	unknown	unknown	0
Listeria	0	0	unknown	unknown	unknown	0
Other agents	0	0	unknown	unknown	unknown	0
Parasites	0	0	unknown	unknown	unknown	0
Salmonella	1	1	unknown	unknown	unknown	0
Staphylococcus	0	0	unknown	unknown	unknown	0
Unknown	0	0	unknown	unknown	unknown	0
Yersinia	0	0	unknown	unknown	unknown	0