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 and antimicrobial resistance in zoonotic agents

IN 2005

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: **Luxembourg**

Reporting Year: **2005**

Institutions and laboratories involved in reporting and monitoring:

Laboratory name	Description	Contribution
LMVE - Laboratoire de Médecine Vétérinaire de l'Etat (Luxembourg)		
LSGV - Landesamt fur Soziales, Gesundheit und Verbraucherschutz (Germany, Saarland)		

PREFACE

This report is submitted to the European Commission in accordance with Article 9 of Council Directive 2003/99/EC[1]. 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 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.

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[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.

A. Information on susceptible animal population

Sources of information:

Nombre de troupeaux; nombre d'exploitations; cheptel détenu:
Source=Recensement agricole annuel effectué par le STATEC (Institut National de Statistique). Le recensement agricole est effectué conformément aux définitions et critères de l'enquête communautaire sur la structure des exploitations agricoles (rgt (CEE) 571/1988).
Abattages:
source = Service d'Economie Rurale (Ministère de l'Agriculture)

Dates the figures relate to and the content of the figures:

Le recensement agricole est effectué annuellement au 15 mai.
Les données relatives aux abattages se rapportent à l'année civile.

Definitions used for different types of animals, herds, flocks and holdings as well as the types covered by the information:

Le recensement agricole ne porte pas sur les troupeaux (herds or flocks).On peut donc uniquement déterminer le nombre d'exploitations détentrices d'une certaine catégorie d'animaux, mais pas le nombre de troupeaux de cette espèce ou d'une orientation de production au sein de l'espèce. Le nombre de troupeaux a donc été assimilé au nombre d'exploitations détentrices de la catégorie d'animaux en question.
Au sein d'une espèce animale, une différenciation entre catégories d'animaux selon l'âge, le sexe et le éventuellement le mode d'utilisation (p.ex. vaches laitières/vaches allaitantes) est possible, mais il n'est pas toujours possible d'attribuer un nombre d'exploitations détentrices à ces catégories d'animaux.
Abattages= nombre d'animaux indigènes abattus au Luxembourg. Ne sont pas compris les animaux exportés vivants et abattus dans les Etats membres voisins.

National evaluation of the numbers of susceptible population and trends in these figures:

voir publications du STATEC et du SER.
STATEC: www.statec.public.lu
SER: www.ser.public.lu
Information auprès du STATEC: jean.haupert@statec.etat.lu
Information auprès du SER: statistiques@ser.etat.lu

Geographical distribution and size distribution of the herds, flocks and holdings

Comme le Luxembourg est une région NUTS3, les statistiques établies au niveau national sont également valables au niveau régional.

Répartition du cheptel selon la taille du cheptel détenu par exploitation: renseignement auprès du STATEC (jean.haupert@statec.etat.lu).

Table Susceptible animal populations

* Only if different than current reporting year

Animal species	Category of animals	Number of herds or flocks	Year*	Number of holdings	Year*	Livestock numbers (live animals)	Year*	Number of slaughtered animals	Year*
Cattle (bovine animals)	dairy cows and heifers	967		967		56633		12580	
	meat production animals					79407		12769	
	calves (under 1 year)					49195		2292	
	in total	1564		1564		185235		27641	
Deer	farmed - in total	5		5		234		139	
Ducks	in total	68		68		281		562	
Gallus gallus (fowl)	laying hens	372		372		63100		27700	
	broilers	350		350		20300		80000	
	in total	608		608		83400		107700	
Geese	in total	93		93		332		664	
Goats	meat production animals	120		120		1098		1724	
	milk goats	7		7		1105		276	
	in total	127		127		2203		2000	
Pigs	breeding animals	123		123		8323		190	
	fattening pigs					81824		126198	
	in total	212		212		90147		126388	
Reindeers	farmed - in total	0		0		0		0	
Sheep	meat production animals	266		266		10277		7957	
	in total	266		266		10277		7957	
Solipeds, domestic	horses - in total	532		532		4193			
Turkeys	in total	15		15		102		204	
Wild boars	farmed - in total	0		0		0		0	

2. INFORMATION ON SPECIFIC ZOONOSES AND ZOONOTIC AGENTS

Zoonoses are diseases or infections, which are naturally transmissible directly or indirectly between animals and humans. Foodstuffs serve often as vehicles of zoonotic infections. Zoonotic agents cover viruses, bacteria, fungi, parasites or other biological entities that are likely to cause zoonoses.

2.1. SALMONELLOSIS

2.1.1. General evaluation of the national situation

A. General evaluation

History of the disease and/or infection in the country

Remark: It is important to know, that in Luxembourg a research programm about zoonoses epidemiology has started last year and is called project epifood.
This project could give a lot of data about zoonotic agents in humans,animals, food and feed,but they are not available since in 3 years

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

Remark: It is important to know, that in Luxembourg a research programm about zoonoses epidemiology has started last year and is called project epifood.
This project could give a lot of data about zoonotic agents in humans,animals, food and feed,but they are not available since in 3 years

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
Meat from broilers (Gallus gallus)								
fresh	LMVE	single	25g	47	0	0	0	0
meat preparation								
intended to be eaten cooked	LMVE	single	25g	1	0	0	0	0
meat products								
cooked, ready-to-eat	LMVE	single	25g	37	1	1	0	0
Meat from duck	LMVE	single	25g	5	1	0	1	0

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Meat from pig								
fresh	LMVE	single	25g	5	0	0	0	0
minced meat								
intended to be eaten cooked	LMVE	single	10g	5	0	0	0	0
meat preparation								
intended to be eaten raw	LMVE	single	25g	18	0	0	0	0
meat products								
raw but intended to be eaten cooked	LMVE	single	25g	19	0	0	0	0
cooked, ready-to-eat	LMVE	single	25g	82	0	0	0	0
mechanically separated meat (MSM) (1)	LMVE	single	25g	11	0	0	0	0
Meat from bovine animals								
fresh	LMVE	single	25g	8	0	0	0	0
minced meat								
intended to be eaten raw	LMVE	single	25g	39	0	0	0	0
intended to be eaten cooked	LMVE	single	10g	32	0	0	0	0
meat preparation								
intended to be eaten raw	LMVE	single	25g	19	0	0	0	0
meat products								
raw but intended to be eaten cooked	LMVE	single	25g	2	0	0	0	0
cooked, ready-to-eat	LMVE	single	25g	15	0	0	0	0
mechanically separated meat (MSM) (2)	LMVE	single	25g	1	0	0	0	0
Meat from sheep								
fresh	LMVE	single	25g	2	2	2	2	2
minced meat	LMVE	single	10g	4	0	0	0	0
Meat, mixed meat	LMVE	single	25g	278	10	0	10	0
Roe	LMVE	single	25g	2	0	0	0	0
Meat from wild game - land mammals	LMVE	single	25g	15	1	0	1	0

Meat from turkey								
fresh	LMVE	single	25g	3	0	0	0	0
meat preparation	LMVE	single	25g	5	0	0	0	0
Meat from rabbit (3)	LMVE	single	25g	13	0	0	0	0
Crustaceans	LMVE	single	25g	1	0	0	0	0
Fish	LMVE	single	25g	57	0	0	0	0

(1) : As MSM is forbidden in Luxembourg I'd like to communicate those meat not defined in one of the five other defined groups, because there is meat together with vegetables
(2) : This bovine meat can also be caracterised as other meat
(3) : The 13 samples are fresh meat

Footnote

Mixed meat = meat from bovine and from porcine
The 10 samples positive for salmonella typhimurium are mainly raw minced mixed meat

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	LMVE	single	25g	16	0	0	0	0
table eggs								
- at retail	LMVE	single	25g	4	0	0	0	0

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
Gallus gallus (fowl)							
laying hens	LMVE	animal	8	0			
unspecified	LMVE	animal	162	0			

Footnote

In Luxembourg a base-line study on laying hens pursuant to Regulation 2160/2003 was carried out in 2005 in 8 farms.
Result: All the farms were negative

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. Hessarek
Cattle (bovine animals)	LMVE	animal	520	3		3		
Sheep	LMVE	animal	8	0				
Goats	LMVE	animal	3	0				
Pigs	LMVE	animal	13	0				
Other animals	LMVE	animal	13	0				
Rabbits	LMVE	animal	1	1				1

Footnote

A monitoring programm is running in Luxembourg concerning salmonella serology in fatting pigs from the "Marque Nationale"
Pigs tested in 2005: 6543
Seronegative: 5730
Seropositive 808
Doubtfull: 5

2.1.4. Salmonella in feedingstuffs

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
Feed material of oil seed or fruit origin								
rape seed derived	official control	lot or part of lot	500 g	12	4	0	0	4
soya (bean) derived	official control	lot or part of lot	500 g	6	1	0	0	1
linseed derived	official control	lot or part of lot	500 g	1	0	0	0	0

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Typhimurium	S. Enteritidis	Salmonella spp., unspecified
Compound feedingstuffs for cattle								
final product	official control	feed lots or part of lots	about 500g	6	0	0	0	0
Compound feedingstuffs for pigs								
final product	official control	feed lot or part of lots	about 500g	29	0	0	0	0
Compound feedingstuffs for poultry (non specified)								
final product	official control	feed lots or part of lots	500 g	17	1	0	0	1
Compound feedingstuffs, not specified								
final product	official control	feed lots or parts of lot	500 g	3	0	0	0	0
Compound feedingstuffs for horses								
final product	official control	feed lots or parts of lot	500 g	2	0	0	0	0
Compound feedingstuffs for fish								
final product	official control	feed lots or parts of lot	500 g	1	0	0	0	0

2.1.5. Salmonella serovars and phagetype distribution

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.

Table Antimicrobial susceptibility testing of S.Typhimurium in animals

n = Number of resistant isolates

	S. Typhimurium							
	Cattle (bovine animals)		**Pigs**		**Gallus gallus (fowl)**		**Turkeys**	
Isolates out of a monitoring programme	yes							
Number of isolates available in the laboratory	3							
Antimicrobials:	**N**	**n**	**N**	**n**	**N**	**n**	**N**	**n**
Tetracyclines	3	2						
Amphenicols								
Chloramphenicol	3	1						
Cephalosporins								
3rd generation cephalosporins	3							
Fluoroquinolones								
Ciprofloxacin	3							
Enrofloxacin	3							
Sulfonamides								
Sulfonamide	3	2						
Aminoglycosides								
Streptomycin	3	2						
Neomycin	3							
Trimethoprim + sulfonamides	3							
Penicillins								
Ampicillin	3	2						

Footnote

One S.typhi-murium is a DT104

Table Antimicrobial susceptibility testing of Salmonella in animals

n = Number of resistant isolates

	Salmonella spp.									
	Cattle (bovine animals)		**Pigs**		**Gallus gallus (fowl)**		**Turkeys**		**Rabbits**	
Isolates out of a monitoring programme									yes	
Number of isolates available in the laboratory									1	
Antimicrobials:	**N**	**n**	**N**	**n**	**N**	**n**	**N**	**n**	**N**	**n**
Tetracyclines									1	
Amphenicols										
Chloramphenicol									1	
Cephalosporins										
3rd generation cephalosporins									1	
Fluoroquinolones										
Ciprofloxacin									1	
Enrofloxacin									1	
Sulfonamides										
Sulfonamide									1	
Aminoglycosides										
Streptomycin									1	
Gentamicin									1	
Neomycin									1	
Polymyxins									1	
Trimethoprim + sulfonamides									1	
Penicillins										
Ampicillin									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	breakpoint Zone diameter (mm)		
		Susceptible <=	Intermediate	Resistant >	lowest	highest	microg	Susceptible >=	Intermediate	Resistant <=
Tetracyclines		4		16			30	19	15	14
Amphenicols										
Chloramphenicol		8		32			30	18	13	12
Florfenicol										
Fluoroquinolones										
Ciprofloxacin		1		4			5	21	16	15
Enrofloxacin		2		8			10	18	15	14
Quinolones										
Nalidixic acid		8		32			30	19	14	13
Trimethoprim							5	16	11	10
Sulfonamides										
Sulfonamide		100		300			23,75	17	13	12
Aminoglycosides										
Streptomycin							10	15	12	11
Gentamicin		4		8			10	15	13	12
Neomycin										
Kanamycin							30	18	15	14
Trimethoprim + sulfonamides		2								
Cephalosporins										
3rd generation cephalosporins		8		32			30	18	15	14
Penicillins										
Ampicillin		8		32			10	17	14	13

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	C. coli	C. lari	Campylobacter spp.	C. jejuni	C. upsaliensis	thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus)	LMVE	single	1g	6			0			0
fresh (1)	LMVE	single	1g	42			26			26
meat products										
raw but intended to be eaten cooked	LMVE	single	1g	1			0			0
Meat from turkey	LMVE	single	1g	1			0			0

(1) : 15 samples were VIDAS+, not confirmed by bacterial culture

Footnote

11 samples were positive for thermophilic Campylobacter
15 samples were positive by thermophilic campylobacter in Vidas-method, but were not confirmed by culture

Table Campylobacter in other food

	Sampling unit	Sample weight	Units tested	C. jejuni	C. coli	C. upsaliensis	Campylobacter spp.	C. lari	thermophilic Campylobacter spp., unspecified
Meat from pig									
fresh (1)	single	1g	4				1		1
meat preparation									
intended to be eaten raw	single	1g	6				0		0
meat products									
raw and intended to be eaten raw	single	1g	0				0		0
cooked, ready-to-eat	single	1g	6				0		0
Meat from bovine animals	single	1g	1				0		0
fresh	single	1g	4				0		0
minced meat									
intended to be eaten raw	single	1g	24				0		0
meat preparation									
intended to be eaten raw	single	1g	9				0		0
meat products	single	1g	1				0		0
Meat from sheep									
fresh	single	1g	1				0		0
meat preparation	single	1g	2				0		0
Meat, mixed meat									
minced meat									
intended to be eaten raw	single	1g	3				0		0
intended to be eaten cooked (2)	single	1g	24				1		1
meat products	single	1g	1				0		0

(1) : 1 sample positive by VIDAS; not confirmed by culture
(2) : 1 sample positive by VIDAS, not confirmed by culture

2.2.3. Campylobacter, thermophilic in animals

2.2.4. Antimicrobial resistance in Campylobacter, thermophilic isolates

2.3. LISTERIOSIS

2.3.1. General evaluation of the national situation

2.3.2. Listeria in foodstuffs

Table Listeria monocytogenes in other foods

	Source of information	Sampling unit	Sample weight	Definition used	Units tested	=<100 cfu/g	>100 cfu/g	L. monocytogenes	Listeria spp., unspecified
Meat from broilers (Gallus gallus)									
fresh	LMVE	single	25g		41	4	0	4	
meat products									
cooked, ready-to-eat	LMVE	single	25g		6	1	0	1	
meat preparation									
intended to be eaten raw	LMVE	single	25g		1	0	0		
Meat from pig									
fresh	LMVE	single	25g		5	1	0	1	
meat products									
cooked, ready-to-eat (1)	LMVE	single	25g		100	1	0	1	
meat preparation									
intended to be eaten raw	LMVE	single	25g		5	5	0		
intended to be eaten cooked	LMVE	single	25g		18	10	0		
Meat from bovine animals (2)	LMVE	single	25g		1	0	0		
fresh	LMVE	single	25g		8	0			
meat products									
cooked, ready-to-eat	LMVE	single	25g		17	0			
meat preparation	LMVE	single	25g		19	4		4	
minced meat									
intended to be eaten raw	LMVE	single	25g		39	2	0	2	
intended to be eaten cooked	LMVE	single	25g		32	12	0	12	
Fish									
unspecified	LMVE	single	25g		24	5		5	
cooked	LMVE	single	25g		7	0			
Crustaceans									

unspecified									
cooked	LMVE	single	25g		1	0			
Meat, mixed meat									
minced meat	LMVE	single	25g		5	0			
meat preparation									
intended to be eaten raw (3)	LMVE	single	25g		64	25	0	25	
intended to be eaten cooked	LMVE	single	25g		28	8	0	8	
meat products									
raw and intended to be eaten raw	LMVE	single	25g		160	19	0	19	
Meat from sheep									
fresh	LMVE	single	25g		2	1	0	1	
meat preparation	LMVE	single	25g		5	4	0	4	
Meat from turkey									
fresh	LMVE	single	25g		3	0			
meat products	LMVE	single	25g		11	0			
Meat from wild game - land mammals									
meat preparation	LMVE	single	25g		1	1	0	1	
fresh	LMVE	single	25g		2	1	0	1	
Meat from farmed game-land mammals									
meat products	LMVE	single	25g		12	0			
Meat from rabbit									
fresh	LMVE	single	25g		13	0			

(1) : Pig minced meat: prepared: 5
5 samples examined for L.m.
5 +< 10 cfu/g
Pig meat preparation: 18
18 examined for L.m.
10 +< 10cfu/g
(2) : Other meat
(3) : 9 samples are considered to the categorie: other and are negative for L.m.

Footnote

The 5 samples positive for Listeria monocytogenes were all <100cfu/g

2.3.3. Listeria in animals

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 unit	Sample weight	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
Meat from broilers (Gallus gallus)								
meat preparation	LMVE	single		1			0	
Meat from pig								
fresh	LMVE	single		2			0	
minced meat								
intended to be eaten raw	LMVE	single					0	
meat preparation	LMVE	single		7			2	
meat products	LMVE	single		5			0	
Meat from bovine animals (1)	LMVE	single		1			0	
fresh	LMVE	single		4			0	
minced meat								
intended to be eaten raw	LMVE	single		71			0	
meat preparation	LMVE	single		14			1	
meat products	LMVE	single		1			0	
Meat from sheep								
minced meat	LMVE	single		1			0	
meat preparation	LMVE	single		3			1	
Meat, mixed meat								
minced meat (2)	LMVE	single		1			0	

intended to be eaten raw		single		5			0	
intended to be eaten cooked		single		54			2	
meat preparation								
intended to be eaten raw		single		18			8	
meat products		single		5			1	

(1) : Other
(2) : Other

Footnote

The sample positive for O157 by Vidas -method was not confirmed

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. Mycobacterium in animals

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 herd prevalence	% new positive herds - herd incidence
LUXEMBOURG (GRAND-DUCHÉ)	1584	1584		0	0		0	0	0	0
Total	1584	1584	0	0	0	0	0	0	0	0
Total - 1										

Footnote

Luxembourg is OTF by decision 97/76/CE, confirmed by decision 1999/467/CE
This status could be maintained respecting the condtions of "règlement grand-ducal" of 20th of august 1999 concerning problems of sanitary police in intra-communautary exchanges in animals of the species bovine and porcine:
- The %age of bovine herds infected is < 0,1% during the last 6 years
- An identification system exists suitable to reglement 820/97CE
- All slaughtered bovine are investigated by an official post mortem insspection, and no cases were detected

Table Tuberculosis in farmed deer

Region	Total number of existing farmed deer		Free herds		Infected herds		Routine tuberculin testing		Number of tuberculin tests carried out before the introduction into the herds	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)	5	234									
Total	5	234	0	0	0	0	0	0	0	0	0

Footnote

The herds of farmed deer are not controlled

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	LMVE	animal	0	0				

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 herd prevalence	% new positive herds - herd incidence
Luxembourg (Grand-Duché)		1584		1584		949		0		0
Total	0	1584	0	1584	0	1008.912	63.694	0	0	0
Total - 1										

9.912

Footnote

Luxembourg is OBF by decision 99/466/CE
In order to maintain the status, followi9ng is done:
-All dairy farms are tested once per year on bulk milk (949 tests)with negative result
-A certain number of rearing aqnd fattening bovine >12 months are analysed for brucellosis
-All tests were negative in 2005

Table Ovine or Caprine 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
Luxembourg (Grand-Duché)	11382		421	421	0			0	0
Total	11382	0	421	421	0	0	0	0	0
Total - 1									

2.7. YERSINIOSIS

2.7.1. General evaluation of the national situation

2.7.2. Yersinia in foodstuffs

2.7.3. Yersinia in animals

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	Animals tested	Total animals positive for Trichinella	T. spiralis	Trichinella spp., unspecified
Pigs						
fattening pigs						
raised under controlled housing conditions in integrated production system	LMVE		229	0	0	0
Solipeds, domestic	LMVE		22	0	0	0
Wild boars						
wild	LMVE		585	0	0	0
Foxes	Sub-contractance LSGV		9	0	0	0

Footnote

Reglement 2075/2005 will order trichinella examination in all pigs

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	E. granulosus	Echinococcus spp.	E. multilocularis	Echinococcus spp., unspecified
Foxes	Sub-contractance LSGV		329	69			69	

Footnote

About 20% of foxes are positive

2.10. TOXOPLASMOSIS

2.10.1. General evaluation of the national situation

2.10.2. Toxoplasma in animals

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	Animals tested	Total animals positive for Lyssavirus (rabies)	unspecified lyssavirus
Cats	LMVE	8	0	
Foxes				
wild	LMVE and sub-contractance	333	0	
Wild boars				
wild	LMVE	1	0	

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1. ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1. General evaluation of the national situation

3.1.2. Antimicrobial resistance in Escherichia coli, non-pathogenic 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, epidemological investigations and reporting of foodborne outbreaks

2 Different systems:
Basic Notification by medical doctors via a paper formulaire
A list of diseases has to be notified.
The list is laid down in the
Règlement grand-ducal du 10 septembre 2004 portant désignation des maladies infectieuses ou transmissibles sujettes à déclaration obligatoire.
Notification by the national reference lab of all culture positive zoonoses to the health inspection services. This last notification is done in the framework of a research project (EPI-FOOD).
Each case of gastroentiritis receives a questionnaire and is asked for possible food exposures (and other exoposures as well).
If the health inspection services become aware of outbreaks (notification by medical doctors or by food business operators), an epidemiological investigation is started.
These investigations are usually retrospective cohort studies.

Description of the types of outbreaks covered by the reporting:

Outbreaks that are quite large.

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

Notified outbreaks are not frequent, so it is difficult to evaluate trends.

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

?

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

?

Evaluation of the severity and clinical picture of the human cases

The reported outbreak was probably of viral origin.

Symptoms were mild.

Table 12. Foodborne outbreaks in humans

Causative agent	General outbreak	Family outbreak	Total Number in persons			Source			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	1		18	0	1	unknown, probably by aerosols			retrospective cohorte	youth hostel	

Footnote

probably the outbreak mentioned was of viral origin