

LUXEMBOURG

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

TRENDS AND SOURCES OF ZOONOSSES AND ZOOTIC AGENTS IN HUMANS, FOODSTUFFS, ANIMALS AND FEEDSTUFFS

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

IN 2011

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Luxembourg

Reporting Year: 2011

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 2011 .

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

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

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

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

* 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

List of Contents

1	ANIMAL POPULATIONS	1
2	INFORMATION ON SPECIFIC ZOOSES AND ZOONOTIC AGENTS	5
2.1	SALMONELLOSIS	6
2.1.1	General evaluation of the national situation	6
2.1.2	Salmonella in foodstuffs	6
2.1.3	Salmonella in animals	17
2.1.4	Salmonella in feedingstuffs	22
2.1.5	Antimicrobial resistance in Salmonella isolates	29
2.2	CAMPYLOBACTERIOSIS	39
2.2.1	General evaluation of the national situation	39
2.2.2	Campylobacter in foodstuffs	39
2.2.3	Campylobacter in animals	46
2.2.4	Antimicrobial resistance in Campylobacter isolates	47
2.3	LISTERIOSIS	51
2.3.1	General evaluation of the national situation	51
2.3.2	Listeria in foodstuffs	51
2.4	E. COLI INFECTIONS	56
2.4.1	General evaluation of the national situation	56
2.4.2	Escherichia coli, pathogenic in foodstuffs	56
2.4.3	Escherichia coli, pathogenic in animals	60
2.5	TUBERCULOSIS, MYCOBACTERIAL DISEASES	64
2.5.1	General evaluation of the national situation	64
2.5.2	Mycobacterium in animals	64
2.6	BRUCELLOSIS	66
2.6.1	General evaluation of the national situation	66
2.6.2	Brucella in animals	66
2.7	YERSINIOSIS	69
2.7.1	General evaluation of the national situation	69
2.8	TRICHINELLOSIS	69
2.8.1	General evaluation of the national situation	69
2.8.2	Trichinella in animals	69
2.9	ECHINOCOCCOSIS	71
2.9.1	General evaluation of the national situation	71
2.9.2	Echinococcus in animals	71
2.10	TOXOPLASMOSIS	72
2.10.1	General evaluation of the national situation	72
2.11	RABIES	72
2.11.1	General evaluation of the national situation	72
2.11.2	Lyssavirus (rabies) in animals	72
2.12	STAPHYLOCOCCUS INFECTION	74

2.12.1	General evaluation of the national situation	74
2.13	Q-FEVER	74
2.13.1	General evaluation of the national situation	74
2.13.2	Coxiella (Q-fever) in animals	74
3	INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL	76
3.1	ESCHERICHIA COLI, NON-PATHOGENIC	77
3.1.1	General evaluation of the national situation	77
3.2	ENTEROCOCCUS, NON-PATHOGENIC	77
3.2.1	General evaluation of the national situation	77
4	INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS	78
4.1	ENTEROBACTER SAKAZAKII	79
4.1.1	General evaluation of the national situation	79
4.2	HISTAMINE	79
4.2.1	General evaluation of the national situation	79
4.3	STAPHYLOCOCCAL ENTEROTOXINS	79
4.3.1	General evaluation of the national situation	79
5	FOODBORNE OUTBREAKS	80

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

Animal species	Category of animals	Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
		Data	Year*	Data	Year*	Data	Year*	Data	Year*
Cattle (bovine animals)	meat production animals	318	2009			24700	2009	318	2009
	dairy cows and heifers	647	2009			61526	2009	647	2009
	calves (under 1 year)					52261			
	mixed herds	435				54048		435	
	- in total	1400		25365		192535		1400	
Deer	farmed - in total					407			
Ducks	- in total	51				211		51	
Gallus gallus (fowl)	laying hens	395		86355		84098		395	
	broilers			94250		17451			
	- in total	418		180605		101549		418	
Geese	- in total	60				203		60	
Goats	meat production animals	45				222		45	
	animals under 1 year	41				2634		41	

Table Susceptible animal populations

Animal species	Category of animals	Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
		Data	Year*	Data	Year*	Data	Year*	Data	Year*
Goats	animals over 1 year	69				214		68	
	milk goats	15				2751		15	
	- in total	103		297		5821		103	
Pigs	fattening pigs					49808			
	breeding animals - unspecified - sows and gilts	75				6949		75	
	- in total	135		138714		89158		135	
Sheep	meat production animals	200				4434		200	
	animals under 1 year (lambs)	176				3759		176	
	animals over 1 year	144				561		144	
	milk ewes	6				197		6	
	- in total	223		2291		8951		223	
Solipeds, domestic	horses - in total	523		66		4594		523	
Turkeys	- in total	9				57		9	

Table Susceptible animal populations

Footnote:
number of slaughtered bovine animals is not available for detailed categories because the coherence with livestock data for the same category can not be assured.

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 strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance ¹⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	28	1		
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance ²⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	36	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance ³⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	3	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance ⁴⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	1	0		
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance ⁵⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	4	0		
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - Surveillance ⁶⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	3	0		
Meat from turkey - fresh - at processing plant - Surveillance ⁷⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	17	0		

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from turkey - fresh - at retail - Surveillance ⁸⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	15	0		
Meat from turkey - meat products - cooked, ready-to-eat - at processing plant - Surveillance ⁹⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	1	0		
Meat from turkey - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance ¹⁰⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	8	2		
Meat from turkey - meat products - raw but intended to be eaten cooked - at retail - Surveillance ¹¹⁾	LMVE	Objective sampling	Official sampling	food sample > meat		Single	25g	3	1		

	Salmonella spp., unspecified	S. Derby	S. Hadar	S. Infantis	S. Kentucky
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance ¹⁾				1	
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance ²⁾					
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance ³⁾					
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance ⁴⁾					
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance ⁵⁾					

Table Salmonella in poultry meat and products thereof

	Salmonella spp., unspecified	S. Derby	S. Hadar	S. Infantis	S. Kentucky
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - Surveillance ⁶⁾					
Meat from turkey - fresh - at processing plant - Surveillance ⁷⁾					
Meat from turkey - fresh - at retail - Surveillance ⁸⁾					
Meat from turkey - meat products - cooked, ready-to-eat - at processing plant - Surveillance ⁹⁾					
Meat from turkey - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance ¹⁰⁾			1		1
Meat from turkey - meat products - raw but intended to be eaten cooked - at retail - Surveillance ¹¹⁾		1			

Comments:

1) ISO 6579

2) ISO 6579

3) ISO 6579

4) ISO 6579

5) ISO 6579

6) ISO 6579

7) ISO 6579

Table Salmonella in poultry meat and products thereof

Comments:

⁸⁾ ISO 6579⁹⁾ ISO 6579¹⁰⁾ ISO 6579¹¹⁾ ISO 6579

Table Salmonella in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Eggs - table eggs - at retail - Surveillance ¹⁾	LMVE	Census	Official sampling	animal sample > eggs		Batch	25g	1	0		
	Salmonella spp., unspecified										
Eggs - table eggs - at retail - Surveillance ¹⁾											

Comments:

¹⁾ ISO 6579

Table Salmonella in red meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from pig - fresh - at retail - Surveillance ¹⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	1	0		
Meat from pig - minced meat - intended to be eaten cooked - at retail - Surveillance ²⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	2	0		
Meat from pig - meat preparation - intended to be eaten raw - at retail - Surveillance ³⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	15	1		1
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance ⁴⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	2	0		
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance ⁵⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	3	0		
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Surveillance ⁶⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	6	0		
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance ⁷⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	9	0		
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance ⁸⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	140	0		
Meat from bovine animals - fresh - at retail - Surveillance ⁹⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	5	0		
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant - Surveillance ¹⁰⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	43	0		
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Surveillance ¹¹⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	106	0		
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - Surveillance ¹²⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	6	0		

Table Salmonella in red meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from bovine animals - meat products - raw but intended to be eaten cooked - at retail - Surveillance ¹³⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	3	0		
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at processing plant - Monitoring ¹⁴⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	1	0		
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at retail - domestic production - Monitoring ¹⁵⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	58	2		2
Meat from bovine animals and pig - meat products - at processing plant - Monitoring (raw but intended to be eaten cooked) ¹⁶⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	4	0		
Meat from bovine animals and pig - meat products - at retail - Monitoring ¹⁷⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	106	0		
Meat from bovine animals and pig - meat products - at retail - Monitoring (raw but intended to be eaten cooked) ¹⁸⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	58	3		
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at retail - domestic production - Monitoring ¹⁹⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	1	0		
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at processing plant - Monitoring ²⁰⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	29	3		
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail - Monitoring ²¹⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	87	1		1

Table Salmonella in red meat and products thereof

	Salmonella spp., unspecified	S. Derby	S. Thompson
Meat from pig - fresh - at retail - Surveillance ¹⁾			
Meat from pig - minced meat - intended to be eaten cooked - at retail - Surveillance ²⁾			
Meat from pig - meat preparation - intended to be eaten raw - at retail - Surveillance ³⁾			
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance ⁴⁾			
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance ⁵⁾			
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - Surveillance ⁶⁾			
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance ⁷⁾			
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance ⁸⁾			
Meat from bovine animals - fresh - at retail - Surveillance ⁹⁾			
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant - Surveillance ¹⁰⁾			
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Surveillance ¹¹⁾			
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - Surveillance ¹²⁾			

Table Salmonella in red meat and products thereof

	Salmonella spp., unspecified	S. Derby	S. Thompson
Meat from bovine animals - meat products - raw but intended to be eaten cooked - at retail - Surveillance ¹³⁾			
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at processing plant - Monitoring ¹⁴⁾			
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at retail - domestic production - Monitoring ¹⁵⁾			
Meat from bovine animals and pig - meat products - at processing plant - Monitoring (raw but intended to be eaten cooked) ¹⁶⁾			
Meat from bovine animals and pig - meat products - at retail - Monitoring ¹⁷⁾			
Meat from bovine animals and pig - meat products - at retail - Monitoring (raw but intended to be eaten cooked) ¹⁸⁾		2	1
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at retail - domestic production - Monitoring ¹⁹⁾			
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at processing plant - Monitoring ²⁰⁾		3	
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail - Monitoring ²¹⁾			

Comments:

Table Salmonella in red meat and products thereof

Comments:

- 1) ISO 6579
- 2) ISO 6579
- 3) ISO 6579
- 4) ISO 6579
- 5) ISO 6579
- 6) ISO 6579
- 7) ISO 6579
- 8) ISO 6579
- 9) ISO 6579
- 10) ISO 6579
- 11) ISO 6579
- 12) ISO 6579
- 13) ISO 6579
- 14) ISO 6579
- 15) ISO 6579
- 16) ISO 6579
- 17) ISO 6579
- 18) ISO 6579
- 19) ISO 6579
- 20) ISO 6579
- 21) ISO 6579

Table Salmonella in red meat and products thereof

2.1.3 Salmonella in animals

Table Salmonella in other birds

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Pigeons - at farm - Monitoring	LMVE						0				
Guinea fowl - at farm - Monitoring	LMVE						0				
Quails - at farm - Monitoring	LMVE						0				
Pheasants - Monitoring	LMVE						0				
Partridges - farmed - at farm - Monitoring	LMVE						0				
Ostriches - farmed - at farm - Monitoring	LMVE						0				

Table Salmonella in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-
Cattle (bovine animals) - calves (under 1 year) - at farm - Monitoring	LMVE						0				
Cattle (bovine animals) - calves (under 1 year) - at slaughterhouse - Monitoring	LMVE						0				
Cattle (bovine animals) - adult cattle over 2 years - at farm - Monitoring	LMVE						0				
Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - Monitoring	LMVE						0				
Sheep - at farm - Monitoring	LMVE						0				
Sheep - at slaughterhouse - Monitoring	LMVE						0				
Goats - at farm - Monitoring	LMVE						0				
Goats - at slaughterhouse - Monitoring	LMVE						0				
Pigs - breeding animals - at farm - Monitoring	LMVE						0				
Pigs - breeding animals - at slaughterhouse - Monitoring	LMVE						0				
Pigs - fattening pigs - at farm - Monitoring	LMVE						0				
Pigs - fattening pigs - at slaughterhouse - Monitoring	LMVE						0				
Solipeds, domestic - horses - at farm - Monitoring	LMVE						0				
Cattle (bovine animals) - dairy cows and heifers - at farm - Clinical investigations	LMVE	Suspect sampling	Official sampling	animal sample > faeces		Animal	107	2		1	1

Table Salmonella in other animals

	Salmonella spp., unspecified
Cattle (bovine animals) - calves (under 1 year) - at farm - Monitoring	
Cattle (bovine animals) - calves (under 1 year) - at slaughterhouse - Monitoring	
Cattle (bovine animals) - adult cattle over 2 years - at farm - Monitoring	
Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - Monitoring	
Sheep - at farm - Monitoring	
Sheep - at slaughterhouse - Monitoring	
Goats - at farm - Monitoring	
Goats - at slaughterhouse - Monitoring	
Pigs - breeding animals - at farm - Monitoring	
Pigs - breeding animals - at slaughterhouse - Monitoring	
Pigs - fattening pigs - at farm - Monitoring	
Pigs - fattening pigs - at slaughterhouse - Monitoring	
Solipeds, domestic - horses - at farm - Monitoring	
Cattle (bovine animals) - dairy cows and heifers - at farm - Clinical investigations	

Table Salmonella in other animals

Table Salmonella in other poultry

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		LMVE	Objective sampling	Official sampling	animal sample > faeces		yes	Flock	226	2	
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes		LMVE	Objective sampling	Official sampling	animal sample > faeces		yes	Flock	99	4	
	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Hessarek	S. Kottbus	S. Senftenberg					
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes				2							
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes					1	3					

Footnote:

Flocks are recognized , when a salmonella detection test is realised.

Normally they are tested at the end of their production period as well in lying hens as in broilers

2.1.4 Salmonella in feedingstuffs

Table Salmonella in compound feedingstuffs

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Compound feedingstuffs for cattle - final product - at feed mill - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	5	0		
Compound feedingstuffs for poultry - laying hens - final product - at feed mill - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	2	0		
Compound feedingstuffs for poultry - broilers - final product - at feed mill - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	1	0		
Compound feedingstuffs for cattle - final product - at farm - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	29	0		
Compound feedingstuffs for cattle - final product - at retail - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	5	1		1
Compound feedingstuffs for horses - final product - at farm - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	3	0		
Compound feedingstuffs for pigs - final product - at farm - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	20	0		

Table Salmonella in compound feedingstuffs

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Compound feedingstuffs for pigs - final product - at retail - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	2	0		
Compound feedingstuffs for poultry - broilers - final product - at farm - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	3	0		
Compound feedingstuffs for poultry - broilers - final product - at retail - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	3	0		
Compound feedingstuffs for poultry - laying hens - final product - at farm - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	13	1		
Compound feedingstuffs for poultry - laying hens - final product - at retail - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	2	0		
Compound feedingstuffs for rabbits - final product - at retail - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	2	0		
Compound feedingstuffs for turkeys - final product - unspecified - Surveillance	ASTA- Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	2	0		

Table Salmonella in compound feedingstuffs

	Salmonella spp., unspecified
Compound feedingstuffs for cattle - final product - at feed mill - Surveillance	
Compound feedingstuffs for poultry - laying hens - final product - at feed mill - Surveillance	
Compound feedingstuffs for poultry - broilers - final product - at feed mill - Surveillance	
Compound feedingstuffs for cattle - final product - at farm - Surveillance	
Compound feedingstuffs for cattle - final product - at retail - Surveillance	
Compound feedingstuffs for horses - final product - at farm - Surveillance	
Compound feedingstuffs for pigs - final product - at farm - Surveillance	
Compound feedingstuffs for pigs - final product - at retail - Surveillance	
Compound feedingstuffs for poultry - broilers - final product - at farm - Surveillance	
Compound feedingstuffs for poultry - broilers - final product - at retail - Surveillance	
Compound feedingstuffs for poultry - laying hens - final product - at farm - Surveillance	1
Compound feedingstuffs for poultry - laying hens - final product - at retail - Surveillance	

Table Salmonella in compound feedingstuffs

	Salmonella spp., unspecified
Compound feedingstuffs for rabbits - final product - at retail - Surveillance	
Compound feedingstuffs for turkeys - final product - unspecified - Surveillance	

Table Salmonella in other feed matter

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Feed material of cereal grain origin - barley derived - at feed mill - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	1			
Feed material of cereal grain origin - maize derived - at feed mill - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	1			
Feed material of oil seed or fruit origin - rape seed derived - at feed mill - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	1			
Feed material of oil seed or fruit origin - soya (bean) derived - at feed mill - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	1			
Feed material of cereal grain origin - barley derived - at farm - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	1			
Feed material of cereal grain origin - maize derived - at farm - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	2			
Feed material of cereal grain origin - wheat derived - at farm - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	1			
Feed material of oil seed or fruit origin - rape seed derived - at farm - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	1			

Table Salmonella in other feed matter

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Feed material of oil seed or fruit origin - rape seed derived - at retail - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	1			
Feed material of oil seed or fruit origin - soya (bean) derived - at farm - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	3			
Feed material of oil seed or fruit origin - soya (bean) derived - at retail - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	5			
Other feed material - tubers, roots and similar products - at farm - Surveillance	ASTA - Contrôle des aliments pour animaux	Unspecified	Official sampling	feed sample		Batch	25g	1			
	Salmonella spp., unspecified										
Feed material of cereal grain origin - barley derived - at feed mill - Surveillance											
Feed material of cereal grain origin - maize derived - at feed mill - Surveillance											
Feed material of oil seed or fruit origin - rape seed derived - at feed mill - Surveillance											
Feed material of oil seed or fruit origin - soya (bean) derived - at feed mill - Surveillance											

Table Salmonella in other feed matter

	Salmonella spp., unspecified
Feed material of cereal grain origin - barley derived - at farm - Surveillance	
Feed material of cereal grain origin - maize derived - at farm - Surveillance	
Feed material of cereal grain origin - wheat derived - at farm - Surveillance	
Feed material of oil seed or fruit origin - rape seed derived - at farm - Surveillance	
Feed material of oil seed or fruit origin - rape seed derived - at retail - Surveillance	
Feed material of oil seed or fruit origin - soya (bean) derived - at farm - Surveillance	
Feed material of oil seed or fruit origin - soya (bean) derived - at retail - Surveillance	
Other feed material - tubers, roots and similar products - at farm - Surveillance	

2.1.5 Antimicrobial resistance in Salmonella isolates

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

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

Table Antimicrobial susceptibility testing of Salmonella in meat from bovine animals

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Dublin		S. Infantis		Salmonella spp.		S. Derby	
	Isolates out of a monitoring program (yes/no)												no	
	Number of isolates available in the laboratory		0		2		1						4	
	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Antimicrobials:														
Aminoglycosides - Gentamicin			2	0	1	0							4	0
Aminoglycosides - Streptomycin			2	2	1	1							4	4
Amphenicols - Chloramphenicol			2	0	1	0							4	0
Cephalosporins - 3rd generation cephalosporins			2	0	1	0							4	0
Fluoroquinolones - Ciprofloxacin			2	0	1	0							4	0
Penicillins - Ampicillin			2	2	1	0							4	0
Quinolones - Nalidixic acid			2	0	1	0							4	0
Sulfonamides			2	2	1	1							4	4
Tetracyclines - Tetracycline			2	2	1	0							4	0
Trimethoprim			2	2	1	1							4	0
Resistant to 2 antimicrobials													4	4
Resistant to 3 antimicrobials					1	1								
Resistant to >4 antimicrobials			2	2										

Footnote:

The results for the antimicrobial susceptibility of Salmonella in mixed bovine/pork meat have been introduced in this file.

Table Antimicrobial susceptibility testing of Salmonella in meat from pig

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

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

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

Table Antimicrobial susceptibility testing of Salmonella in meat from other poultry species

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		Salmonella spp.		S. Derby		S. Hadar		S. Kentucky	
	Isolates out of a monitoring program (yes/no)													
	Number of isolates available in the laboratory		0		0		0		1		1		1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin	1	0							1	0	1	0	1	1
Aminoglycosides - Streptomycin	1	0							1	1	1	1	1	1
Amphenicols - Chloramphenicol	1	0							1	0	1	0	1	0
Cephalosporins - 3rd generation cephalosporins	1	0							1	0	1	0	1	0
Fluoroquinolones - Ciprofloxacin	1	1							1	0	1	0	1	1
Penicillins - Ampicillin	1	0							1	0	1	1	1	1
Quinolones - Nalidixic acid	1	1							1	0	1	1	1	1
Sulfonamides									1	1	1	0	1	1
Tetracyclines - Tetracycline	1	0							1	1	1	1	1	1
Trimethoprim	1	0							1	0	1	0	1	0
Resistant to 2 antimicrobials	1	1							1	1				
Resistant to 4 antimicrobials											1	1		
Resistant to >4 antimicrobials													1	1

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

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		Salmonella spp.		S. Hessarek	
	yes		yes		yes				yes	
	0		0		0				2	
	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin									2	0
Aminoglycosides - Streptomycin									2	0
Amphenicols - Chloramphenicol									2	0
Cephalosporins - 3rd generation cephalosporins									2	0
Fluoroquinolones - Ciprofloxacin									2	0
Penicillins - Ampicillin									2	0
Quinolones - Nalidixic acid									2	0
Sulfonamides									2	0
Tetracyclines - Tetracycline									2	0
Trimethoprim									2	0
Fully sensitive									2	0

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

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:-		S. Paratyphi B var. Java		Salmonella spp.		S. Kottbus		S. Senftenberg	
	yes		yes		yes		yes				yes		yes	
	0		0		0		0				3		1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin											3	0	1	0
Aminoglycosides - Streptomycin											3	0	1	0
Amphenicols - Chloramphenicol											3	0	1	0
Cephalosporins - 3rd generation cephalosporins											3	0	1	0
Fluoroquinolones - Ciprofloxacin											3	0	1	0
Penicillins - Ampicillin											3	0	1	0
Quinolones - Nalidixic acid											3	3	1	0
Sulfonamides											3	0	1	0
Tetracyclines - Tetracycline											3	0	1	0
Trimethoprim											3	0	1	0
Fully sensitive													1	1
Resistant to 1 antimicrobial											3	3		

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

Test Method Used	Standard methods used for testing
Disc diffusion	NCCLS/CLSI

		Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >
			Resistant <=
Aminoglycosides	Gentamicin	NON-EFSA	12
	Kanamycin		13
	Neomycin		20
	Streptomycin	NON-EFSA	11
Amphenicols	Chloramphenicol	NON-EFSA	12
	Florfenicol		16
Cephalosporins	Cefotaxime	NON-EFSA	14
Fluoroquinolones	Ciprofloxacin	NON-EFSA	15
	Enrofloxacin		16
Penicillins	Ampicillin	NON-EFSA	13
Quinolones	Nalidixic acid	NON-EFSA	13
Sulfonamides	Sulfonamides	NON-EFSA	19
Tetracyclines	Tetracycline	NON-EFSA	11

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Trimethoprim	Trimethoprim	NON-EFSA		10
Trimethoprim + Sulfonamides	Trimethoprim + Sulfonamides			10

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

Test Method Used		Standard methods used for testing		
		NCCLS/CLSI		
			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	NON-EFSA		
	Streptomycin	NON-EFSA		
Amphenicols	Chloramphenicol	NON-EFSA		
Cephalosporins	Cefotaxime	NON-EFSA		
Fluoroquinolones	Ciprofloxacin	NON-EFSA		
Penicillins	Ampicillin	NON-EFSA		
Quinolones	Nalidixic acid	NON-EFSA		
Sulfonamides	Sulfonamides	NON-EFSA		
Tetracyclines	Tetracycline	NON-EFSA		
Trimethoprim	Trimethoprim	NON-EFSA		

2.2 CAMPYLOBACTERIOSIS

2.2.1 General evaluation of the national situation

2.2.2 Campylobacter in foodstuffs

Table Campylobacter in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni
Meat from pig - fresh - at retail ¹⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	3	0		
Meat from pig - minced meat - intended to be eaten raw - at retail ²⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	2	0		
Meat from bovine animals - fresh - at retail ³⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	1	0		
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant ⁴⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	40	0		
Meat from bovine animals - minced meat - intended to be eaten raw - at retail ⁵⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	99	0		
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail ⁶⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	9	0		
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - at retail - Monitoring ⁷⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	1	0		
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at processing plant - Monitoring ⁸⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	1	0		

Table Campylobacter in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at retail - Monitoring ⁹⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	53	0		
Meat from bovine animals and pig - meat products - at retail - Monitoring ¹⁰⁾	LMVE	Census	Official sampling	unknown		Single	10g	62	0		
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at processing plant - domestic production - Monitoring ¹¹⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	11	0		
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail - domestic production - Monitoring ¹²⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	85	1	1	
Meat from pig - meat preparation - intended to be eaten raw - chilled - at retail - domestic production - Monitoring ¹³⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	15	0		

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from pig - fresh - at retail ¹⁾			
Meat from pig - minced meat - intended to be eaten raw - at retail ²⁾			
Meat from bovine animals - fresh - at retail ³⁾			
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant ⁴⁾			

Table Campylobacter in other food

		C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from bovine animals - minced meat - intended to be eaten raw - at retail	5)			
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail	6)			
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - at retail - Monitoring	7)			
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at processing plant - Monitoring	8)			
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at retail - Monitoring	9)			
Meat from bovine animals and pig - meat products - at retail - Monitoring	10)			
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at processing plant - domestic production - Monitoring	11)			
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail - domestic production - Monitoring	12)			
Meat from pig - meat preparation - intended to be eaten raw - chilled - at retail - domestic production - Monitoring	13)			

Comments:

¹⁾ Afnor Validation BIO-12/30-05/10

Table Campylobacter in other food

Comments:

- ²⁾ Afnor Validation BIO-12/30-05/10
- ³⁾ Afnor Validation BIO-12/30-05/10
- ⁴⁾ Afnor Validation BIO-12/30-05/10
- ⁵⁾ Afnor Validation BIO-12/30-05/10
- ⁶⁾ Afnor Validation BIO-12/30-05/10
- ⁷⁾ Afnor Validation BIO-12/30-05/10
- ⁸⁾ Afnor Validation BIO-12/30-05/10
- ⁹⁾ Afnor Validation BIO-12/30-05/10
- ¹⁰⁾ Afnor Validation BIO-12/30-05/10
- ¹¹⁾ Afnor Validation BIO-12/30-05/10
- ¹²⁾ Afnor Validation BIO-12/30-05/10
- ¹³⁾ Afnor Validation BIO-12/30-05/10

Table Campylobacter in poultry meat

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni
Meat from broilers (Gallus gallus) - fresh - at processing plant ¹⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	26	22	8	14
Meat from broilers (Gallus gallus) - fresh - at retail ²⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	49	23	10	13
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant ³⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	2	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail ⁴⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	1	1		1
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail ⁵⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	2	2	1	1
Meat from turkey - fresh - at processing plant ⁶⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	16	9	4	5
Meat from turkey - fresh - at retail ⁷⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	15	8	3	5
Meat from turkey - meat preparation - intended to be eaten cooked - at processing plant ⁸⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	8	5	3	2
Meat from turkey - meat preparation - intended to be eaten cooked - at retail ⁹⁾	LMVE	Census	Official sampling	food sample > meat		Single	10g	3	0		

Table Campylobacter in poultry meat

		C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus) - fresh - at processing plant	1)			
Meat from broilers (Gallus gallus) - fresh - at retail	2)			
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant	3)			
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail	4)			
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail	5)			
Meat from turkey - fresh - at processing plant	6)			
Meat from turkey - fresh - at retail	7)			
Meat from turkey - meat preparation - intended to be eaten cooked - at processing plant	8)			
Meat from turkey - meat preparation - intended to be eaten cooked - at retail	9)			

Comments:

1) Afnor Validation BIO-12/30-05/10

2) Afnor Validation BIO-12/30-05/10

3) Afnor Validation BIO-12/30-05/10

Table Campylobacter in poultry meat

Comments:

- 4) Afnor Validation BIO-12/30-05/10
- 5) Afnor Validation BIO-12/30-05/10
- 6) Afnor Validation BIO-12/30-05/10
- 7) Afnor Validation BIO-12/30-05/10
- 8) Afnor Validation BIO-12/30-05/10
- 9) Afnor Validation BIO-12/30-05/10

2.2.3 Campylobacter in animals

Table Campylobacter in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari
Cattle (bovine animals) - dairy cows and heifers - at farm - Clinical investigations	LMVE	Suspect sampling	Official sampling	animal sample > faeces		Animal	22	4	0	3	
	C. upsaliensis	Thermophilic Campylobacter spp., unspecified									
Cattle (bovine animals) - dairy cows and heifers - at farm - Clinical investigations		1									

2.2.4 Antimicrobial resistance in Campylobacter isolates

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

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

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

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
	no		no			
	16		28			
	N	n	N	n	N	n
Isolates out of a monitoring program (yes/no)						
Number of isolates available in the laboratory						
Antimicrobials:						
Aminoglycosides - Gentamicin	16	0	28	0		
Fluoroquinolones - Ciprofloxacin	16	11	28	13		
Macrolides - Erythromycin	16	7	28	1		
Penicillins - Ampicillin	16	5	28	15		
Quinolones - Nalidixic acid	16	12	28	14		
Tetracyclines - Tetracycline	16	12	28	7		
Fully sensitive	16	2	28	3		
Resistant to 1 antimicrobial	16	1	28	11		
Resistant to 2 antimicrobials	16	1	28	6		
Resistant to 3 antimicrobials	16	3	28	5		
Resistant to 4 antimicrobials	16	8	28	3		
Resistant to >4 antimicrobials	16	1	28	0		

Table Antimicrobial susceptibility testing of Campylobacter in Meat from other poultry species

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
	no		no			
	7		13			
	N	n	N	n	N	n
Isolates out of a monitoring program (yes/no)						
Number of isolates available in the laboratory						
Antimicrobials:						
Aminoglycosides - Gentamicin	7	7	13	13		
Fluoroquinolones - Ciprofloxacin	7	4	13	6		
Macrolides - Erythromycin	6	1	12	2		
Penicillins - Ampicillin	7	4	13	3		
Quinolones - Nalidixic acid	7	6	13	6		
Tetracyclines - Tetracycline	7	6	13	5		
Fully sensitive	7	0	13	6		
Resistant to 1 antimicrobial	7	0	13	1		
Resistant to 2 antimicrobials	7	2	13	0		
Resistant to 3 antimicrobials	7	3	13	4		
Resistant to 4 antimicrobials	7	1	13	1		
Resistant to >4 antimicrobials	7	1	13	1		

Table Cut-off values used for antimicrobial susceptibility testing of Campylobacter in Animals

Test Method Used	Standard methods used for testing
Disc diffusion	

		Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant > Resistant <=
Aminoglycosides	Gentamicin		14
	Streptomycin		11
Fluoroquinolones	Ciprofloxacin		17
Macrolides	Erythromycin		12
Quinolones	Nalidixic acid		15
Tetracyclines	Tetracycline		18

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 strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance ¹⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	3	1	3	1
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance ²⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	78	2	78	2
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance ³⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	68	2	68	2
Meat from bovine animals - minced meat - intended to be eaten raw - chilled - at processing plant - Monitoring ⁴⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	39	4	39	4
Meat from bovine animals - minced meat - intended to be eaten raw - chilled - at retail - Monitoring ⁵⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	106	28	106	28
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - at retail - Monitoring ⁶⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	2	0	2	0
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at retail - Monitoring ⁷⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	59	17	59	17

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Meat from bovine animals and pig - meat products - at retail - domestic production - Monitoring (cooked, ready to eat) ⁸⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	97	4	97	4
Meat from bovine animals and pig - meat products - at retail - domestic production - Monitoring (raw, but intended to be eaten cooked) ⁹⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	62	25	62	25
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at processing plant - Monitoring ¹⁰⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	26	4	26	4
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail - domestic production - Monitoring ¹¹⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	87	29	87	29
Meat from broilers (<i>Gallus gallus</i>) - fresh - at retail - Surveillance ¹²⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	71	31	71	31
Meat from turkey - fresh - chilled - at retail - Surveillance ¹³⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	37	5	37	5
Meat from turkey - meat preparation - intended to be eaten cooked - chilled - at retail - Monitoring ¹⁴⁾	LMVE	Census	Official sampling	food sample > meat		Single	25g	6	1	6	1
	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g								
Meat from broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at retail - Surveillance ¹⁾	3	1	0								

Table *Listeria monocytogenes* in other foods

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - Surveillance ²⁾	78	0	
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance ³⁾	68	0	
Meat from bovine animals - minced meat - intended to be eaten raw - chilled - at processing plant - Monitoring ⁴⁾	39	0	0
Meat from bovine animals - minced meat - intended to be eaten raw - chilled - at retail - Monitoring ⁵⁾	106	3	0
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - at retail - Monitoring ⁶⁾	2	0	0
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at retail - Monitoring ⁷⁾	59	0	0
Meat from bovine animals and pig - meat products - at retail - domestic production - Monitoring (cooked, ready to eat) ⁸⁾	97	0	0
Meat from bovine animals and pig - meat products - at retail - domestic production - Monitoring (raw, but intended to be eaten cooked) ⁹⁾	62	4	0
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at processing plant - Monitoring ¹⁰⁾	26	0	0

Table *Listeria monocytogenes* in other foods

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail - domestic production - Monitoring ¹¹⁾	87	0	0
Meat from broilers (<i>Gallus gallus</i>) - fresh - at retail - Surveillance ¹²⁾	71	3	0
Meat from turkey - fresh - chilled - at retail - Surveillance ¹³⁾	37	2	0
Meat from turkey - meat preparation - intended to be eaten cooked - chilled - at retail - Monitoring ¹⁴⁾	6	0	

Comments:

¹⁾ BRD:07/04-09/98²⁾ BRD:07/04-09/98³⁾ BRD:07/04-09/98⁴⁾ BRD:07/04-09/98⁵⁾ BRD:07/04-09/98⁶⁾ BRD:07/04-09/98⁷⁾ BRD:07/04-09/98⁸⁾ BRD:07/04-09/98⁹⁾ BRD:07/04-09/98¹⁰⁾ BRD:07/04-09/98

Table Listeria monocytogenes in other foods

Comments:

- ¹¹⁾ BRD:07/04-09/98
- ¹²⁾ BRD:07/04-09/98
- ¹³⁾ BRD:07/04-09/98
- ¹⁴⁾ BRD:07/04-09/98

Footnote:

All the Techniques used to detect Listeria are based on BRD 07/04-09/98 and BRD 07/05-09/01 for enumeration of Listeria
These 2 methods are accredited ISO 17025 by Ilnas/Belac/Cofrac as an alternative method to the ISO-Norm NF ISO 7218

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

2.4.2 Escherichia coli, pathogenic in foodstuffs

Table VT E. coli in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Analytical Method	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157
Meat from bovine animals - fresh - at retail - Surveillance ¹⁾	LMVE	Census	Official sampling	food sample > meat			Single	25g	1	0	
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Surveillance ²⁾	LMVE	Census	Official sampling	food sample > meat			Single	25g	117	0	
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant - domestic production - Surveillance ³⁾	LMVE	Census	Official sampling	food sample > meat			Single	25g	43	0	
Meat from turkey - fresh - chilled - at retail - imported - Surveillance ⁴⁾	LMVE	Census	Official sampling	food sample > meat			Single	25g	30	0	
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten raw - chilled - at retail - domestic production - Surveillance ⁵⁾	LMVE	Census	Official sampling	food sample > meat			Single	25g	55	0	
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - chilled - at retail - domestic production - Surveillance ⁶⁾	LMVE	Census	Official sampling	food sample > meat			Single	25g	58	0	

Table VT E. coli in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Analytical Method	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - minced meat - intended to be eaten raw - chilled - at processing plant - domestic production - Surveillance ⁷⁾	LMVE	Census	Official sampling	food sample > meat			Single	25g	29	0	
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - minced meat - intended to be eaten raw - chilled - at retail - domestic production - Surveillance ⁸⁾	LMVE	Census	Official sampling	food sample > meat			Single	25g	86	0	

	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat from bovine animals - fresh - at retail - Surveillance ¹⁾		
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Surveillance ²⁾		
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant - domestic production - Surveillance ³⁾		
Meat from turkey - fresh - chilled - at retail - imported - Surveillance ⁴⁾		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten raw - chilled - at retail - domestic production - Surveillance ⁵⁾		

Table VT E. coli in food

	Verotoxigenic E. coli (VTEC) - VTEC non- O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - chilled - at retail - domestic production - Surveillance ⁶⁾		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - minced meat - intended to be eaten raw - chilled - at processing plant - domestic production - Surveillance ⁷⁾		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - minced meat - intended to be eaten raw - chilled - at retail - domestic production - Surveillance ⁸⁾		

Comments:

- 1) NF EN ISO 6887
- 2) NF EN ISO 6887
- 3) NF EN ISO 6887
- 4) NF EN ISO 6887
- 5) NF EN ISO 6887
- 6) NF EN ISO 6887
- 7) NF EN ISO 6887
- 8) NF EN ISO 6887

Table VT E. coli in food

Footnote:

The detection of VTEC in food is done by rhe follwing method
Normes:NF EN ISO 6887
Instructions :I_DAV_Vidas

Modes opératoires :Vidas ECO
O157 H7 Latex Test Kit
This method is accredited ISO 17025 by llnas/Belac/Cofrac

2.4.3 Escherichia coli, pathogenic in animals

Table VT E. coli in animals

		Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Analytical Method	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157
Cattle (bovine animals) - at farm - Monitoring	1)								0			
Cattle (bovine animals) - at slaughterhouse - Monitoring	2)											
Cattle (bovine animals) - calves (under 1 year) - at farm - Monitoring	3)											
Cattle (bovine animals) - meat production animals - at farm - Monitoring	4)											
Cattle (bovine animals) - meat production animals - at slaughterhouse - Monitoring	5)											
Cattle (bovine animals) - dairy cows - at farm - Monitoring	6)											
Cattle (bovine animals) - dairy cows - at slaughterhouse - Monitoring	7)											
Sheep - at farm - Monitoring	8)											
Sheep - at slaughterhouse - Monitoring	9)											
Goats - at farm - Monitoring	10)											
Goats - at slaughterhouse - Monitoring	11)											
Pigs - at farm - Monitoring	12)											
Solipeds, domestic - at farm - Monitoring	13)											

Table VT E. coli in animals

		Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Analytical Method	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157
Poultry, unspecified - at farm - Monitoring	14)											
Dogs - Clinical investigations	15)											
Cats - Clinical investigations	16)											

		Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Cattle (bovine animals) - at farm - Monitoring	1)		
Cattle (bovine animals) - at slaughterhouse - Monitoring	2)		
Cattle (bovine animals) - calves (under 1 year) - at farm - Monitoring	3)		
Cattle (bovine animals) - meat production animals - at farm - Monitoring	4)		
Cattle (bovine animals) - meat production animals - at slaughterhouse - Monitoring	5)		
Cattle (bovine animals) - dairy cows - at farm - Monitoring	6)		
Cattle (bovine animals) - dairy cows - at slaughterhouse - Monitoring	7)		
Sheep - at farm - Monitoring	8)		
Sheep - at slaughterhouse - Monitoring	9)		

Table VT E. coli in animals

		Verotoxigenic E. coli (VTEC) - VTEC non- O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Goats - at farm - Monitoring	10)		
Goats - at slaughterhouse - Monitoring	11)		
Pigs - at farm - Monitoring	12)		
Solipeds, domestic - at farm - Monitoring	13)		
Poultry, unspecified - at farm - Monitoring	14)		
Dogs - Clinical investigations	15)		
Cats - Clinical investigations	16)		

Comments:

- 1) not done
- 2) not done
- 3) not done
- 4) not done
- 5) not done
- 6) not done
- 7) not done
- 8) not done
- 9) not done
- 10) not done

Table VT E. coli in animals

Comments:

- ¹¹⁾ not done
- ¹²⁾ not done
- ¹³⁾ not done
- ¹⁴⁾ not done
- ¹⁵⁾ not done
- ¹⁶⁾ not done

Footnote:
VTEC tests in animals are not done in Luxembourg. Therefore no data are available

2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1 General evaluation of the national situation

2.5.2 Mycobacterium in animals

A. Mycobacterium bovis in bovine animals

Status as officially free of bovine tuberculosis during the reporting year

The entire country free

by decision 97/76/CE and confirmed by decision 1999/467/CE and decision 2003/467/CE

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

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Routine tuberculin testing		Number of tuberculin tests carried out before the introduction into the herds (Annex A(I)(2)(c) third indent (1) of Directive 64/432/EEC)	Number of animals with suspicious lesions of tuberculosis examined and submitted to histopathological and bacteriological	Number of animals detected positive in bacteriological examination
	Herds	Animals	Number of herds	%	Number of herds	%	Interval between routine tuberculin tests	Number of animals tested			
Luxembourg (Grand-Duché) ¹⁾	1400	195235	1400	100	0	0	no routine test	0	0	0	0
Total : ²⁾	1400	195235	1400	100	0	0	N.A.	0	0	0	0

Comments:

¹⁾ officially free by Decision 2003/467²⁾ N.A.

2.6 BRUCELLOSIS

2.6.1 General evaluation of the national situation

2.6.2 Brucella in animals

A. Brucella abortus in bovine animals

Status as officially free of bovine brucellosis during the reporting year

The entire country free

by decision 99/466/CE confirmed by decision 2003/467 CE

Additional information

Regular surveillance by control of bulk tank milk all over the country

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

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance						Investigations of suspect cases								
							Serological tests			Examination of bulk milk			Information about			Epidemiological investigation					
	Herds	Animals	Number of herds	%	Number of herds	%	Number of bovine herds tested	Number of animals tested	Number of infected herds	Number of bovine herds tested	Number of animals or pools tested	Number of infected herds	Number of notified abortions whatever cause	Number of isolations of Brucella infection	Number of abortions due to Brucella abortus	Number of animals tested with serological blood tests	Number of suspended herds	Number of positive animals		Number of animals examined microbiologically	Number of animals positive microbiologically
																		Sero logically	BST		
Luxembourg (Grand-Duché) ¹⁾	1400	195235	1400	100	0	0		566	0	798	61526	0	0	0	0	0	0	0	0	0	0
Total : ²⁾	1400	195235	1400	100	0	0	0	566	0	798	61526	0	0	0	0	0	0	0	0	0	0

Comments:

¹⁾ LMVE²⁾ N.A.

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

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

	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							
Region	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals
Luxembourg (Grand-Duché) ¹⁾														
Total : ²⁾	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Comments:

- 1) No official investigations instaured
- 2) N.A.

2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

2.8 TRICHINELLOSIS

2.8.1 General evaluation of the national situation

2.8.2 Trichinella in animals

Table Trichinella in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Trichinella	T. spiralis	Trichinella spp., unspecified
Pigs - fattening pigs - not raised under controlled housing conditions - at slaughterhouse - Surveillance ¹⁾	LMVE + Provençale	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	1963	0		
Solipeds, domestic - horses - at slaughterhouse - Surveillance ²⁾	LMVE	Objective sampling	Official sampling	animal sample > organ/tissue		Animal	41	0		
Wild boars - wild - Surveillance ³⁾	LMVE	Census	Official sampling	animal sample > organ/tissue		Animal	2235	0		
Bears - Surveillance	LMVE						0			
Foxes - Monitoring ⁴⁾	LMVE	Census	Official sampling	animal sample > organ/tissue		Animal	20	0		
Rodents - Monitoring	LMVE						0			

Table Trichinella in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Trichinella	T. spiralis	Trichinella spp., unspecified
Rats - Monitoring	LMVE						0			
Raccoon dogs - Monitoring	LMVE						0			

Comments:

- 1) Digestion
- 2) Digestion
- 3) Digestion
- 4) Digestion

2.9 ECHINOCOCCOSIS

2.9.1 General evaluation of the national situation

2.9.2 Echinococcus in animals

Table Echinococcus in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis
Foxes - Monitoring	LMVE	Census	Official sampling	animal sample > faeces		Animal	Luxembourg (Grand-Duché)	20	0		
	Echinococcus spp., unspecified										
Foxes - Monitoring											

2.10 TOXOPLASMOSIS

2.10.1 General evaluation of the national situation

2.11 RABIES

2.11.1 General evaluation of the national situation

2.11.2 Lyssavirus (rabies) in animals

Table Rabies in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Rabies virus (RABV)	EBLV-1
Cattle (bovine animals)	LMVE	Suspect sampling	Official sampling	animal sample > brain		Animal	Luxembourg (Grand-Duché)	5	0		
Cats - stray cats	LMVE	Suspect sampling	Official sampling	animal sample > brain		Animal	Luxembourg (Grand-Duché)	5	0		
Foxes - wild - Monitoring	LMVE	Objective sampling	Official sampling	animal sample > brain		Animal	Luxembourg (Grand-Duché)	20	0		
	EBLV-2	Lyssavirus (unspecified virus)									
Cattle (bovine animals)											

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Cats - stray cats		
Foxes - wild - Monitoring		

2.12 STAPHYLOCOCCUS INFECTION

2.12.1 General evaluation of the national situation

2.13 Q-FEVER

2.13.1 General evaluation of the national situation

2.13.2 Coxiella (Q-fever) in animals

Table Coxiella burnetii (Q fever) in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Analytical Method	Sampling unit	Units tested	Total units positive for Coxiella (Q-fever)	C. burnetii	No of clinically affected herds
Cattle (bovine animals) - at farm - Clinical investigations ¹⁾	LMVE	Census	Official sampling	animal sample		PCR	Animal	8	4	4	
Sheep - at farm - Clinical investigations	LMVE	Census	Official sampling	animal sample > milk		PCR	Animal	1	0		
Goats - at farm - Clinical investigations							---				
Goats - at farm - Monitoring ²⁾	LMVE	Census	Official sampling	animal sample		PCR	Animal	4	2	2	

Comments:

¹⁾ milk,organws,blood and swab

²⁾ bulk tank milk, organs and swabs

Table Coxiella burnetii (Q fever) in animals

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

3.2 ENTEROCOCCUS, NON-PATHOGENIC

3.2.1 General evaluation of the national situation

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 ENTEROBACTER SAKAZAKII

4.1.1 General evaluation of the national situation

4.2 HISTAMINE

4.2.1 General evaluation of the national situation

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

5. FOODBORNE

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

A. Foodborne outbreaks

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

Task Force of foodborne outbreaks under the ministry of health

Description of the types of outbreaks covered by the reporting:

There are no outbreaks notified

Table Foodborne Outbreaks: summarised data

	Weak evidence or no vehicle outbreaks				Strong evidence Number of Outbreaks	Total number of outbreaks
	Number of outbreaks	Human cases	Hospitalized	Deaths		
Salmonella - S. Typhimurium	0	unknown	unknown	unknown	0	0
Salmonella - S. Enteritidis	0	unknown	unknown	unknown	0	0
Salmonella - Other serovars	0	unknown	unknown	unknown	0	0
Campylobacter	0	unknown	unknown	unknown	0	0
Listeria - Listeria monocytogenes	0	unknown	unknown	unknown	0	0
Listeria - Other Listeria	0	unknown	unknown	unknown	0	0
Yersinia	0	unknown	unknown	unknown	0	0
Escherichia coli, pathogenic - Verotoxigenic E. coli (VTEC)	0	unknown	unknown	unknown	0	0
Bacillus - B. cereus	0	unknown	unknown	unknown	0	0
Bacillus - Other Bacillus	0	unknown	unknown	unknown	0	0
Staphylococcal enterotoxins	0	unknown	unknown	unknown	0	0
Clostridium - Cl. botulinum	0	unknown	unknown	unknown	0	0
Clostridium - Cl. perfringens	0	unknown	unknown	unknown	0	0

	Weak evidence or no vehicle outbreaks				Strong evidence Number of Outbreaks	Total number of outbreaks
	Number of outbreaks	Human cases	Hospitalized	Deaths		
Clostridium - Other Clostridia	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Brucella	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Shigella	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Other Bacterial agents	0	unknown	unknown	unknown	0	0
Parasites - Trichinella	0	unknown	unknown	unknown	0	0
Parasites - Giardia	0	unknown	unknown	unknown	0	0
Parasites - Cryptosporidium	0	unknown	unknown	unknown	0	0
Parasites - Anisakis	0	unknown	unknown	unknown	0	0
Parasites - Other Parasites	0	unknown	unknown	unknown	0	0
Viruses - Norovirus	0	unknown	unknown	unknown	0	0
Viruses - Hepatitis viruses	0	unknown	unknown	unknown	0	0
Viruses - Other Viruses	0	unknown	unknown	unknown	0	0
Other agents - Histamine	0	unknown	unknown	unknown	0	0
Other agents - Marine biotoxins	0	unknown	unknown	unknown	0	0
Other agents - Other Agents	0	unknown	unknown	unknown	0	0

Unknown agent

Weak evidence or no vehicle outbreaks				Strong evidence Number of Outbreaks	Total number of outbreaks
Number of outbreaks	Human cases	Hospitalized	Deaths		
0	unknown	unknown	unknown	0	0