European Food Safety Authority

ZOONOSES MONITORING

LUXEMBOURG

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

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

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

IN 2013

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Luxembourg

Reporting Year: 2013

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 2013 .

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

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

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

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

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

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1. ANIMAL POPULATIONS

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

Table Susceptible animal populations

* Only if different than current reporting year

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Cattle (bovine animals)	meat production animals	375	2012			26246	2012	375	2012
	dairy cows and heifers	575	2012			57951	2012	575	2012
	calves (under 1 year)					52502	2012		
	mixed herds	413	2012			51774	2012	413	2012
	- in total [1]	1363	2012	22680		188473	2012	1363	2012
Deer	farmed - in total [2]					356	2012		
Ducks	- in total [3]	42	2012			206	2012	42	2012
Gallus gallus (fowl)	laying hens	376	2012	87818		94981	2012	376	2012
	broilers			85250		17817	2012		
	- in total [4]	398	2012	173068		112798	2012	398	2012
Geese	- in total [5]	57	2012			229	2012	57	2012
Goats	meat production animals	43	2012			223	2012	43	2012
	animals under 1 year	38	2012			1198	2012	38	2012

Table Susceptible animal populations

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Goats	animals over 1 year	69	2012			382	2012	79	2012
	milk goats	13	2012			3095	2012	13	2012
	- in total [6)]	105	2012	234		4898	2012	105	2012
Pigs	fattening pigs					53705	2012		
	breeding animals - unspecified - sows and gilts	64	2012			6259	2012	64	2012
	- in total [7)]	117	2012	155021		90023	2012	117	2012
Sheep	meat production animals	199	2012			4191	2012	199	2012
	animals under 1 year (lambs)	179	2012			3322	2012	179	2012
	animals over 1 year	132	2012			390	2012	132	2012
	milk ewes	10	2012			308	2012	10	2012
	- in total [8)]	224	2012	2583		8211	2012	224	2012
Solipeds, domestic	horses - in total [9)]	548	2012	234		4887	2012	548	2012
Turkeys	- in total [10)]	11	2012			105	2012	11	2012

Table Susceptible animal populations

Comments:

[1)] in total (not others)

[2)] in total (not others)

[3)] in total (not others)

[4)] in total (not others)

[5)] in total (not others)

[6)] in total (not others)

[7)] in total (not others)

[8)] in total (not others)

[9)] in total (not others)

[10)] in total (not others)

2. INFORMATION ON SPECIFIC ZOONOSES AND ZOONOTIC AGENTS

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

2.1 SALMONELLOSIS

2.1.1 General evaluation of the national situation

2.1.2 Salmonellosis in humans

Table Salmonella in humans - Species/serotype distribution

Species/serotype Distribution	Cases	Cases Inc.	Autochthon cases	Autochthon Inc.	Imported cases	Imported Inc.	Unknown status
Salmonella	59	0	0	0	0	0	59
S. Enteritidis	29						29
S. Typhimurium	30						30

Table Salmonella in humans - Age distribution

Age distribution	S. Enteritidis			S. Typhimurium			Salmonella spp.		
	All	M	F	All	M	F	All	M	F
<1 year	1		1				6	2	4
1 to 4 years	6	3	3	9	5	4	13	7	6
5 to 14 years	9	2	7	12	7	5	6	4	2
15 to 24 years	5	3	2	1	1		10	3	7
25 to 44 years	5	3	2	4	3	1	10	3	7
45 to 64 years	3	1	2	1		1	8	4	4
65 years and older				3	2	1	9	3	6
Total :	29	12	17	30	18	12	62	26	36

Table Salmonella in humans - Seasonal distribution

Seasonal Distribution / Months	S. Enteritidis	S. Typhimurium	Salmonella spp.
	Cases	Cases	Cases
January		1	5
February		1	2
March	1	1	3
April	2	1	10
May	2	2	6
June	2	1	1
July	1	8	7
August	8	4	7
September	9	8	10
October	1	1	5
November	3	0	3
December		2	3
Total :	29	30	62

2.1.3 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 - Processing plant - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	3	0		
Meat from broilers (Gallus gallus) - fresh - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	30	2		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Processing plant - Surveillance	LMVE	Objective sampling	Official sampling	food sample > milk	Unknown	Single	25g	1	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	7	0		
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0		
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	0		
Meat from turkey - fresh - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	0		
Meat from turkey - meat preparation - intended to be eaten cooked - Processing plant - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	1		
Meat from turkey - meat preparation - intended to be eaten cooked - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	9	1		

Table Salmonella in poultry meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Newport	S. Paratyphi B	S. Virchow
Meat from broilers (Gallus gallus) - fresh - Processing plant - Surveillance					
Meat from broilers (Gallus gallus) - fresh - Retail - Surveillance				2	
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Processing plant - Surveillance					
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Retail - Surveillance					
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - Retail - Surveillance					
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - Retail - Surveillance					
Meat from turkey - fresh - Retail - Surveillance					
Meat from turkey - meat preparation - intended to be eaten cooked - Processing plant - Surveillance			1		
Meat from turkey - meat preparation - intended to be eaten cooked - Retail - Surveillance					1

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 - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0		
Meat from pig - minced meat - intended to be eaten cooked - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0		
Meat from pig - meat preparation - intended to be eaten raw - Processing plant - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0		
Meat from pig - meat preparation - intended to be eaten raw - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	20	0		
Meat from pig - meat preparation - intended to be eaten cooked - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	33	1		
Meat from pig - meat products - raw but intended to be eaten cooked - Processing plant - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	9	0		
Meat from pig - meat products - raw but intended to be eaten cooked - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	20	0		
Meat from bovine animals - fresh - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	10	0		
Meat from bovine animals - minced meat - intended to be eaten raw - Processing plant - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0		
Meat from bovine animals - minced meat - intended to be eaten raw - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	7	0		
Meat from bovine animals - minced meat - intended to be eaten cooked - Processing plant - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	3	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 - minced meat - intended to be eaten cooked - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	20	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - Processing plant - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	16	0		
Meat from sheep - fresh - Processing plant - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0		
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	0		
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	21	0		
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0		
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	12	1		
Meat from bovine animals and pig - meat products - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	97	0		
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	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 and pig - minced meat - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	18	0		
Meat from bovine animals and pig - minced meat - intended to be eaten raw - Retail	LMVE	Objective sampling	Official and industry sampling	food sample > meat	Unknown	Single	25g	16	0		
Meat from sheep - meat preparation - intended to be eaten cooked - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	3	0		
Meat from sheep - meat products - raw but intended to be eaten cooked - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	3	0		

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Derby	S. Muenchen
Meat from pig - fresh - Retail - Surveillance				
Meat from pig - minced meat - intended to be eaten cooked - Retail - Surveillance				
Meat from pig - meat preparation - intended to be eaten raw - Processing plant - Surveillance				
Meat from pig - meat preparation - intended to be eaten raw - Retail - Surveillance				
Meat from pig - meat preparation - intended to be eaten cooked - Retail - Surveillance				1
Meat from pig - meat products - raw but intended to be eaten cooked - Processing plant - Surveillance				

Table Salmonella in red meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Derby	S. Muenchen
Meat from pig - meat products - raw but intended to be eaten cooked - Retail - Surveillance				
Meat from bovine animals - fresh - Retail - Surveillance				
Meat from bovine animals - minced meat - intended to be eaten raw - Processing plant - Surveillance				
Meat from bovine animals - minced meat - intended to be eaten raw - Retail - Surveillance				
Meat from bovine animals - minced meat - intended to be eaten cooked - Processing plant - Surveillance				
Meat from bovine animals - minced meat - intended to be eaten cooked - Retail - Surveillance				
Meat from bovine animals - meat preparation - intended to be eaten cooked - Processing plant - Surveillance				
Meat from bovine animals - meat preparation - intended to be eaten cooked - Retail - Surveillance				
Meat from sheep - fresh - Processing plant - Surveillance				
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - Processing plant				

Table Salmonella in red meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Derby	S. Muenchen
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - Retail				
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - Processing plant				
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - Retail			1	
Meat from bovine animals and pig - meat products - Retail				
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - Processing plant				
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - Retail				
Meat from bovine animals and pig - minced meat - intended to be eaten raw - Retail				
Meat from sheep - meat preparation - intended to be eaten cooked - Retail - Surveillance				
Meat from sheep - meat products - raw but intended to be eaten cooked - Retail - Surveillance				

2.1.4 Salmonella in animals

Table Salmonella in breeding flocks of Gallus gallus

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes			Census	Official and industry sampling			yes				

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

Table Salmonella in other 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) - Farm - Monitoring		Suspect sampling	Industry sampling	animal sample	Domestic	Animal	62	4	1	1	
Cattle (bovine animals) - adult cattle over 2 years - Slaughterhouse - Monitoring		Suspect sampling	Industry sampling	animal sample	Domestic	Animal	20	3	1		
Sheep - Farm - Monitoring		Suspect sampling	Industry sampling	animal sample	Domestic	Animal	1	0			
Goats - Farm - Monitoring		Suspect sampling	Industry sampling	animal sample	Domestic	Animal	2	0			

	Salmonella spp., unspecified	S. Tennessee
Cattle (bovine animals) - calves (under 1 year) - Farm - Monitoring		2
Cattle (bovine animals) - adult cattle over 2 years - Slaughterhouse - Monitoring		2
Sheep - Farm - Monitoring		
Goats - Farm - Monitoring		

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 - Farm - Control and eradication programmes	7	LMVE	Census	Official and industry sampling	environmental sample > boot swabs	Domestic	yes	Flock	7	0	
Gallus gallus (fowl) - broilers - day-old chicks - Control and eradication programmes			Census	Official and industry sampling	environmental sample > boot swabs	Domestic	yes	Flock			
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes	8	LMVE	Census	Official and industry sampling	environmental sample > boot swabs	Domestic	yes	Flock	8	0	
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes			Census	Industry sampling			yes				
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes			Census	Official and industry sampling			yes				
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes			Census	Official and industry sampling			yes				
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes			Census	Industry sampling			yes				
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes				Official sampling			yes				
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes			Census	Official and industry sampling			yes				
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes			Census	Industry sampling			yes				
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes				Official sampling			yes				

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Gallus gallus (fowl) - laying hens - adult - Farm - Control and eradication programmes			
Gallus gallus (fowl) - broilers - day-old chicks - Control and eradication programmes			
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes			
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes			
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes			
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes			
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes			
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes			
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes			
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes			
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes			

2.1.5 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 - Farm - Surveillance [1)]	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	31	1		
Compound feedingstuffs for pigs - final product - Farm - Surveillance	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	22	0		
Compound feedingstuffs for pigs - final product - Feed mill - Surveillance	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	1	0		
Compound feedingstuffs for poultry (non specified) - final product - Farm - Surveillance	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	8	0		
Compound feedingstuffs for poultry (non specified) - final product - Retail - Surveillance	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	2	0		
Compound feedingstuffs for poultry - laying hens - final product - Feed mill - Surveillance	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	2	0		
Compound feedingstuffs, not specified - final product - Farm - Surveillance [2)]	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	1	0		

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Compound feedingstuffs for cattle - final product - Farm - Surveillance [1)]		1

Table Salmonella in compound feedingstuffs

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Compound feedingstuffs for pigs - final product - Farm - Surveillance		
Compound feedingstuffs for pigs - final product - Feed mill - Surveillance		
Compound feedingstuffs for poultry (non specified) - final product - Farm - Surveillance		
Compound feedingstuffs for poultry (non specified) - final product - Retail - Surveillance		
Compound feedingstuffs for poultry - laying hens - final product - Feed mill - Surveillance		
Compound feedingstuffs, not specified - final product - Farm - Surveillance [2)]		

Comments:

[1)] S. enterica enterica

[2)] feed for goats

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 - palm kernel derived - Feed mill - Surveillance	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	1	0		
Feed material of oil seed or fruit origin - soya (bean) derived - Feed mill - Surveillance	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	6	0		
Feed material of oil seed or fruit origin - soya (bean) derived - Farm - Surveillance	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	2	0		
Feed material of oil seed or fruit origin - soya (bean) derived - Retail - Surveillance	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	1	0		
Other feed material - drinking water - Farm - Surveillance	ASTA	Selective sampling	Official sampling	feed sample		Batch	25 g	2	0		

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Feed material of oil seed or fruit origin - palm kernel derived - Feed mill - Surveillance		
Feed material of oil seed or fruit origin - soya (bean) derived - Feed mill - Surveillance		
Feed material of oil seed or fruit origin - soya (bean) derived - Farm - Surveillance		
Feed material of oil seed or fruit origin - soya (bean) derived - Retail - Surveillance		
Other feed material - drinking water - Farm - Surveillance		

Table Salmonella in other feed matter

2.1.6 Antimicrobial resistance in Salmonella isolates

A. Antimicrobial resistance in Salmonella in cattle

Sampling strategy used in monitoring

Frequency of the sampling

no specific antimicrobial resistance testing on Salmonella in cattle during 2013

B. Antimicrobial resistance in Salmonella in pigs

Sampling strategy used in monitoring

Frequency of the sampling

no specific antimicrobial resistance testing on Salmonella in pigs during 2013

C. Antimicrobial resistance in Salmonella in poultry

Sampling strategy used in monitoring

Frequency of the sampling

no specific antimicrobial resistance testing on Salmonella in poultry during 2013

Table Antimicrobial susceptibility testing of Salmonella in humans

Salmonella	S. Enteritidis		S. Typhimurium		Salmonella spp.	
Isolates out of a monitoring program (yes/no)	yes		yes		yes	
Number of isolates available in the laboratory	29		30		62	
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin	29	0	29	0	62	2
Amphenicols - Chloramphenicol	29	0	30	20	62	5
Fluoroquinolones - Ciprofloxacin	29	0	30	0	62	2
Penicillins - Ampicillin	29	0	30	26	62	25
Quinolones - Nalidixic acid	29	3	30	1	62	6
Sulfonamides	29	1	30	1	62	6
Tetracyclines - Tetracycline	29	1	30	23	62	30
Trimethoprim	29	1	30	1	62	5
Fully sensitive	29	26	30	4	62	29
Resistant to 1 antimicrobial	29	2	30	3	62	7
Resistant to 2 antimicrobials	29	0	30	3	62	17
Resistant to 3 antimicrobials	29	1	30	18	62	4
Resistant to 4 antimicrobials	29	0	30	2	62	2
Resistant to >4 antimicrobials	29	0	30	0	62	3

Table Antimicrobial susceptibility testing of Salmonella in meat from pig

Salmonella	S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		S. Agona		Salmonella spp.		S. Muenchen	
Isolates out of a monitoring program (yes/no)											no	
Number of isolates available in the laboratory											1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin											1	0
Aminoglycosides - Kanamycin											1	0
Aminoglycosides - Neomycin											1	0
Aminoglycosides - Streptomycin											1	0
Amphenicols - Chloramphenicol											1	0
Amphenicols - Florfenicol											1	0
Cephalosporins - 3rd generation cephalosporins											1	0
Fluoroquinolones - Ciprofloxacin											1	0
Fluoroquinolones - Enrofloxacin											1	0
Penicillins - Ampicillin											1	0
Quinolones - Nalidixic acid											1	0
Sulfonamides											1	0
Tetracyclines - Tetracycline											1	0
Trimethoprim											1	1
Macrolides - Erythromycin											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. Java		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.		S. Paratyphi B	
Isolates out of a monitoring program (yes/no)																					no	
Number of isolates available in the laboratory																					2	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin																					2	0
Aminoglycosides - Kanamycin																					2	0
Amphenicols - Chloramphenicol																					2	0
Fluoroquinolones - Ciprofloxacin																					2	0
Fluoroquinolones - Enrofloxacin																					2	0
Penicillins - Ampicillin																					2	1
Quinolones - Nalidixic acid																					2	1
Sulfonamides																					2	1
Tetracyclines - Tetracycline																					2	0
Trimethoprim																					2	1
Cephalosporins - Cefotaxime																					2	1
Penicillins - Amoxicillin / Clavulanic acid																					2	1
Trimethoprim + Sulfonamides - Trimethoprim + Sulfamethoxazole																					2	1

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

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.		S. Newport	
Isolates out of a monitoring program (yes/no)									no										no	
Number of isolates available in the laboratory									1										1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin									1	0									1	1
Aminoglycosides - Kanamycin									1	1									1	0
Aminoglycosides - Streptomycin									1	1									1	1
Amphenicols - Chloramphenicol									1	1									1	0
Fluoroquinolones - Ciprofloxacin									1	0									1	0
Fluoroquinolones - Enrofloxacin									1	1										
Penicillins - Ampicillin									1	0									1	0
Quinolones - Nalidixic acid									1	1									1	1
Sulfonamides									1	1									1	1
Tetracyclines - Tetracycline									1	1									1	1
Trimethoprim									1	1									1	1

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
	Ceftazidime		2	
Fluoroquinolones	Ciprofloxacin		0.064	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
	Ceftazidime		2	
Fluoroquinolones	Ciprofloxacin		0.064	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
	Ceftazidime		2	
Fluoroquinolones	Ciprofloxacin		0.064	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

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

Test Method Used
Disc diffusion

Standard methods used for testing
NCCLS/CLSI

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin			12
Amphenicols	Chloramphenicol			12
Fluoroquinolones	Ciprofloxacin			20
Penicillins	Ampicillin			13
Quinolones	Nalidixic acid			13
Sulfonamides	Sulfonamides			12
Tetracyclines	Tetracycline			11
Trimethoprim	Trimethoprim			10

2.2 CAMPYLOBACTERIOSIS

2.2.1 General evaluation of the national situation

2.2.2 Campylobacteriosis in humans

Table Campylobacter in humans - Species/serotype distribution

Species/serotype Distribution	Cases	Cases Inc.	Autochthon cases	Autochthon Inc.	Imported cases	Imported Inc.	Unknown status
Campylobacter	675	0	0	0	0	0	675
C. coli	92						92
C. jejuni	582						582
C. upsaliensis	1						1

Table Campylobacter in humans - Age distribution

Age distribution	C. coli			C. jejuni			Campylobacter spp., unspecified		
	All	M	F	All	M	F	All	M	F
<1 year	1	1	0	12	4	8	0	0	0
1 to 4 years	8	2	6	70	36	34	0	0	0
5 to 14 years	9	5	4	80	47	33	0	0	0
15 to 24 years	15	6	9	89	47	42	0	0	0
25 to 44 years	29	12	17	161	85	76	0	0	0
45 to 64 years	20	11	9	112	54	58	1	1	0
65 years and older	10	8	2	58	29	29	0	0	0
Age unknown	0	0	0	0	0	0	0	0	0
Total :	92	45	47	582	302	280	1	1	0

Table Campylobacter in humans - Seasonal distribution

Seasonal Distribution / Months	C. coli	C. jejuni	C. upsaliensis	Campylobacter spp., unspecified
	Cases	Cases	Cases	Cases
January	11	41		
February	3	24		
March	4	23		
April	3	32		
May	4	45		
June	9	53		
July	15	91		
August	16	59		
September	9	51		
October	5	51		
November	9	65	1	
December	4	47		
Total :	92	582	1	0

2.2.3 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 - minced meat - intended to be eaten raw - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	10g	6	0		
Meat from bovine animals - fresh - Retail		Objective sampling	Official sampling	food sample > meat	Unknown	Single	10g	2	0		
Meat from pig - meat products - raw but intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	10	2	0		

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from pig - minced meat - intended to be eaten raw - Retail			
Meat from bovine animals - fresh - Retail			
Meat from pig - meat products - raw but intended to be eaten cooked - Retail			

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 - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	10g	3	3	1	2
Meat from broilers (Gallus gallus) - fresh - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	10g	23	17	5	12
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	10g	7	3	2	1
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	10g	1	1		1
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	10g	2	1	1	
Meat from turkey - fresh - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	10g	2	1	1	
Meat from turkey - meat preparation - intended to be eaten cooked - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	10g	2	0		
Meat from turkey - meat preparation - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	10g	9	3	2	1

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus) - fresh - Processing plant			
Meat from broilers (Gallus gallus) - fresh - Retail			

Table Campylobacter in poultry meat

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Retail			
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - Retail			
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - Retail			
Meat from turkey - fresh - Processing plant			
Meat from turkey - meat preparation - intended to be eaten cooked - Processing plant			
Meat from turkey - meat preparation - intended to be eaten cooked - Retail			

2.2.4 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) - calves (under 1 year) - Farm - Monitoring	LMVE	Convenience sampling	Not applicable	animal sample > faeces	Domestic	Animal	29	12		6	
Gallus gallus (fowl) - broilers - Farm - Monitoring	LMVE	Objective sampling	Official sampling	environmental sample > boot swabs	Domestic	Flock	18	12	6	6	

	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Cattle (bovine animals) - calves (under 1 year) - Farm - Monitoring		6
Gallus gallus (fowl) - broilers - Farm - Monitoring		

2.2.5 Antimicrobial resistance in Campylobacter isolates

A. Antimicrobial resistance in Campylobacter jejuni and coli in pigs

Sampling strategy used in monitoring

Frequency of the sampling

no specific antimicrobial resistance testing on Campylobacter in pigs during 2013

B. Antimicrobial resistance in Campylobacter jejuni and coli in poultry

Sampling strategy used in monitoring

Frequency of the sampling

no specific antimicrobial resistance testing on Campylobacter in poultry during 2013

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

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
Isolates out of a monitoring program (yes/no)			no		no	
Number of isolates available in the laboratory			6			
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin			6	0		
Fluoroquinolones - Ciprofloxacin			6	1		
Penicillins - Ampicillin			6	1		
Quinolones - Nalidixic acid			6	2		
Tetracyclines - Tetracycline			6	2		

Table Antimicrobial susceptibility testing of Campylobacter in Meat from bovine animals

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
Isolates out of a monitoring program (yes/no)	no		no			
Number of isolates available in the laboratory	18		19			
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin	18	0	19	0		
Fluoroquinolones - Ciprofloxacin	18	15	19	14		
Penicillins - Ampicillin	18	6	19	10		
Quinolones - Nalidixic acid	18	15	19	15		
Tetracyclines - Tetracycline	17	14	19	10		

Table Antimicrobial susceptibility testing of Campylobacter in humans

Campylobacter	Campylobacter spp., unspecified	
Isolates out of a monitoring program (yes/no)	yes	
Number of isolates available in the laboratory	658	
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	658	1
Fluoroquinolones - Ciprofloxacin	658	392
Macrolides - Erythromycin	658	22
Penicillins - Ampicillin	658	12
Tetracyclines - Tetracycline	658	262
Fully sensitive	658	218
Resistant to 1 antimicrobial	658	220
Resistant to 2 antimicrobials	658	194
Resistant to 3 antimicrobials	658	23
Resistant to 4 antimicrobials	658	3

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

Test Method Used
Disc diffusion E-test

Standard methods used for testing
NCCLS/CLSI

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin			16
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		1	
Penicillins	Ampicillin			14
Tetracyclines	Tetracycline			17

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		0.5	
Macrolides	Erythromycin		8	
Quinolones	Nalidixic acid		16	
Tetracyclines	Tetracycline		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		0.5	
Macrolides	Erythromycin		8	
Quinolones	Nalidixic acid		16	
Tetracyclines	Tetracycline		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		0.5	
Macrolides	Erythromycin		8	
Quinolones	Nalidixic acid		16	
Tetracyclines	Tetracycline		2	

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

Test Method Used
Disc diffusion E-test

Standard methods used for testing
NCCLS/CLSI

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin			16
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		4	
Penicillins	Ampicillin			14
Tetracyclines	Tetracycline			17

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		0.5	
Macrolides	Erythromycin		4	
Quinolones	Nalidixic acid		16	
Tetracyclines	Tetracycline		1	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		0.5	
Macrolides	Erythromycin		4	
Quinolones	Nalidixic acid		16	
Tetracyclines	Tetracycline		1	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		0.5	
Macrolides	Erythromycin		4	
Quinolones	Nalidixic acid		16	
Tetracyclines	Tetracycline		1	

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

Test Method Used
Disc diffusion E-test

Standard methods used for testing
NCCLS/CLSI

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin			16
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		4	
Penicillins	Ampicillin			14
Tetracyclines	Tetracycline			17

2.3 LISTERIOSIS

2.3.1 General evaluation of the national situation

2.3.2 Listeriosis in humans

Table Listeria in humans - Species/serotype distribution

Species/serotype Distribution	Cases	Cases Inc.
Listeria	2	0
Listeria spp., unspecified	2	
Congenital cases	0	
Number of deaths	0	

Table Listeria in humans - Age distribution

Age distribution	L. monocytogenes			Listeria spp., unspecified		
	All	M	F	All	M	F
65 years and older	2	1	1			
Total :	2	1	1	0	0	0

2.3.3 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 pig - fresh - Processing plant - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	0	2	0
Meat from pig - meat products - cooked, ready-to-eat - Processing plant - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	27	0	27	0
Meat from pig - meat products - cooked, ready-to-eat - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	226	5	226	5
Meat from bovine animals - meat products - cooked, ready-to-eat - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	0	2	0
Meat from bovine animals - fresh - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	18	2	18	2
Meat from bovine animals - meat preparation - intended to be eaten raw - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	7	0	7	0
Meat from bovine animals - meat preparation - intended to be eaten cooked - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0	1	0
Meat from bovine animals - meat preparation - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	19	2	19	2
Meat from bovine animals - meat products - raw but intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	8	3	8	3
Meat from bovine animals - minced meat - intended to be eaten raw - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	20	0	20	0
Meat from bovine animals - minced meat - intended to be eaten raw - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	100	25	100	25

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 bovine animals - minced meat - intended to be eaten cooked - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	3	0	3	0
Meat from bovine animals - minced meat - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	21	3	21	3
Meat from bovine animals and pig - fresh - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0	1	0
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	0	2	0
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	47	1	47	1
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0	1	0
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	15	4	15	4
Meat from bovine animals and pig - meat products - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	20	1	20	1
Meat from bovine animals and pig - meat products - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	152	33	152	33
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0	1	0
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	18	4	18	4

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 bovine animals and pig - minced meat - intended to be eaten raw - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	12	0	12	0
Meat from bovine animals and pig - minced meat - intended to be eaten raw - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	110	31	110	31
Meat from broilers (Gallus gallus) - fresh - Processing plant	LMVE	Selective sampling	Official sampling	food sample > meat	Unknown	Single	25g	3	1	3	1
Meat from broilers (Gallus gallus) - fresh - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	12	4	12	4
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Processing plant	LMVE	Objective sampling	Official and industry sampling	food sample > meat	Unknown	Single	25g	1	0	1	0
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	14	0	14	0
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	17	0	17	0
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	0	2	0
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	0	2	0
Meat from pig - fresh - Retail - Surveillance	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	6	0	6	0
Meat from pig - meat preparation - intended to be eaten raw - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Unknown	25g	31	5	31	5
Meat from pig - meat preparation - intended to be eaten raw - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	50	4	50	4

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 pig - meat preparation - intended to be eaten cooked - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	10	0	10	0
Meat from pig - meat products - raw but intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	29	8	29	8
Meat from pig - minced meat - intended to be eaten raw - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	16	8	16	8
Meat from pig - minced meat - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	0	2	0
Meat from sheep - fresh - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	1	0	1	0
Meat from sheep - meat preparation - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	3	1	3	1
Meat from turkey - fresh - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	0	2	0
Meat from turkey - meat preparation - intended to be eaten cooked - Processing plant	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	2	0	2	0
Meat from turkey - meat preparation - intended to be eaten cooked - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	10	1	10	1
Meat from turkey - meat products - cooked, ready-to -eat - Retail	LMVE	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	4	1	4	1

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from pig - fresh - Processing plant - Surveillance	2	0	0

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from pig - meat products - cooked, ready-to-eat - Processing plant - Surveillance	27	0	0
Meat from pig - meat products - cooked, ready-to-eat - Retail - Surveillance	226	0	0
Meat from bovine animals - meat products - cooked, ready-to-eat - Retail - Surveillance	2	0	0
Meat from bovine animals - fresh - Retail - Surveillance	18	0	0
Meat from bovine animals - meat preparation - intended to be eaten raw - Retail	7	0	0
Meat from bovine animals - meat preparation - intended to be eaten cooked - Processing plant	1	0	0
Meat from bovine animals - meat preparation - intended to be eaten cooked - Retail	19	1	0
Meat from bovine animals - meat products - raw but intended to be eaten cooked - Retail	8	0	0
Meat from bovine animals - minced meat - intended to be eaten raw - Processing plant	20	0	0
Meat from bovine animals - minced meat - intended to be eaten raw - Retail	100	0	0
Meat from bovine animals - minced meat - intended to be eaten cooked - Processing plant	3	0	0
Meat from bovine animals - minced meat - intended to be eaten cooked - Retail	21	0	0

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from bovine animals and pig - fresh - Processing plant	1	0	0
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - Processing plant	2	0	0
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - Retail	47	1	0
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - Processing plant	1	0	0
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - Retail	15	0	0
Meat from bovine animals and pig - meat products - Processing plant	20	0	0
Meat from bovine animals and pig - meat products - Retail	152	4	0
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - Processing plant	1	0	0
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - Retail	18	0	0
Meat from bovine animals and pig - minced meat - intended to be eaten raw - Processing plant	12	0	0
Meat from bovine animals and pig - minced meat - intended to be eaten raw - Retail	110	2	0

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from broilers (Gallus gallus) - fresh - Processing plant	3	0	0
Meat from broilers (Gallus gallus) - fresh - Retail	12	0	0
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Processing plant	1	0	0
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Retail	14	0	0
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - Retail	17	0	0
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - Retail	2	0	0
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - Retail	2	0	0
Meat from pig - fresh - Retail - Surveillance	6	0	0
Meat from pig - meat preparation - intended to be eaten raw - Processing plant	31	0	0
Meat from pig - meat preparation - intended to be eaten raw - Retail	50	0	0
Meat from pig - meat preparation - intended to be eaten cooked - Processing plant	10	0	0
Meat from pig - meat products - raw but intended to be eaten cooked - Retail	29	0	0

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from pig - minced meat - intended to be eaten raw - Retail	16	0	0
Meat from pig - minced meat - intended to be eaten cooked - Retail	2	0	0
Meat from sheep - fresh - Retail	1	0	0
Meat from sheep - meat preparation - intended to be eaten cooked - Retail	3	1	0
Meat from turkey - fresh - Retail	2	0	0
Meat from turkey - meat preparation - intended to be eaten cooked - Processing plant	2	0	0
Meat from turkey - meat preparation - intended to be eaten cooked - Retail	10	0	0
Meat from turkey - meat products - cooked, ready-to-eat - Retail	4	0	0

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

A. Verotoxigenic Escherichia coli infections general evaluation

History of the disease and/or infection in the country

No data available!!!

2.4.2 E. coli infections in humans

Table Escherichia coli, pathogenic in humans - Species/serotype distribution

Species/serotype Distribution Escherichia coli, pathogenic	Cases	Cases Inc.	Autochthon cases	Autochthon Inc.	Imported cases	Imported Inc.
E.coli infect. (except HUS)	10					
- clinical cases	10					
- laboratory confirmed	10					
- caused by other VTEC	10					

Table Escherichia coli, pathogenic in humans - Age distribution

Age distribution	Verotoxigenic E. coli (VTEC)			Verotoxigenic E. coli (VTEC) - VTEC O157:H7			Verotoxigenic E. coli (VTEC) - VTEC non-O157		
	All	M	F	All	M	F	All	F	M
1 to 4 years	3	2	1				3	2	1
5 to 14 years	1	1	0				1	1	0
15 to 24 years	1	0	1				1	0	1
25 to 44 years	1	0	1				1	0	1
45 to 64 years	3	1	2				3	1	2
65 years and older	1	1	0				1	1	0
Total :	10	5	5	0	0	0	10	5	5

2.4.3 Escherichia coli, pathogenic in animals

A. Verotoxigenic Escherichia coli in cattle (bovine animals)

Monitoring system

Sampling strategy

No data 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 2003/467/CE

Monitoring system

Sampling strategy

systematic inspection post mortem at slaughter

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)]	1363	186653	1363	100	0	0	no routine test	0	0	1	0
Total : [2)]	1363	186653	1363	100	0	0	N.A.	0	0	1	0

Comments:

[1)] LMVE

[2)] 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 Ovine or Caprine Brucellosis in countries and regions that do not receive Community co-financing for eradication programme

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

Region	Total number of existing		Officially free herds		Infected herds		Surveillance			Investigations of suspect cases				
	Herds	Animals	Number of herds	%	Number of herds	%	Number of herds tested	Number of animals tested	Number of infected herds	Number of animals tested with serological blood tests	Number of animals positive serologically	Number of animals examined microbio logically	Number of animals positive microbio logically	Number of suspended herds
Luxembourg (Grand-Duché)	329	13109	329	100	0	0	0	20	0					
Total : [1)]	329	13109	329	100	0	0	0	20	0	0	0	0	0	0

Comments:

[1)] N.A.

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

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance						Investigations of suspect cases								
							Serological tests			Examination of bulk milk			Information about			Epidemiological investigation					
	Herds	Animals	Number of herds	%	Number of herds	%	Number of bovine herds tested	Number of animals tested	Number of infected herds	Number of bovine herds tested	Number of animals or pools tested	Number of infected herds	Number of notified abortions whatever cause	Number of isolations of Brucella infection	Number of abortions due to Brucella abortus	Number of animals tested with serological blood tests	Number of suspended herds	Number of positive animals		Number of animals examined microbio logically	Number of animals positive microbio logically
																		Sero logically	BST		
Luxembourg (Grand-Duché) [1)]	1363	186653	1363	100	0	0	1	477	0	728	728	1	0	0	0	71	1	7		5	0
Total : [2)]	1363	186653	1363	100	0	0	1	477	0	728	728	1	0	0	0	71	1	7	0	5	0

Comments:

[1)] LMVE

[2)] N.A.

2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

2.7.2 Yersiniosis in humans

Table Yersinia in humans - Species/serotype distribution

Species/serotype Distribution	Cases	Cases Inc.	Autochthon cases	Autochthon Inc.	Imported cases	Imported Inc.
Yersinia	15	0	0	0	0	0
Y. enterocolitica	1					
Y. enterocolitica - O:3	12					
Y. enterocolitica - O:9	2					

Table Yersinia in humans - Age distribution

Age distribution	Y. enterocolitica			Yersinia spp., unspecified		
	All	M	F	All	M	F
<1 year	2	1	1			
1 to 4 years	3	2	1			
5 to 14 years	3	1	2			
15 to 24 years	2	2	0			
25 to 44 years	3	2	1			
45 to 64 years	1	0	1			
65 years and older	1	1	0			
Total :	15	9	6	0	0	0

Table Yersinia in humans - Seasonal distribution

Seasonal Distribution / Months	Y. enterocolitica	Yersinia spp., unspecified
	Cases	Cases
January	3	
May	3	
June	1	
July	3	
August	2	
September	1	
November	1	
December	1	
Total :	15	0

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 - raised under controlled housing conditions - Slaughterhouse - Surveillance	LMVE	Census	Official sampling	animal sample > organ/tissue	Domestic	Animal	148906	0		
Pigs - breeding animals	LMVE	Census	Official and industry sampling	animal sample	Domestic	Animal	78	0		
Solipeds, domestic - horses - Slaughterhouse - Surveillance	LMVE	Census	Official and industry sampling	animal sample > organ/tissue	Domestic	Animal	22	0		
Wild boars - farmed - Surveillance		Convenience sampling								
Wild boars - wild - Surveillance	LMVE	Convenience sampling	Official and industry sampling	animal sample > organ/tissue	Domestic	Animal	1188	0		
Foxes - Monitoring	LMVE	Convenience sampling	Official sampling	animal sample > organ/tissue	Domestic	Animal	29	0		
Solipeds, domestic - horses - Border inspection activities - Surveillance	LMVE	Objective sampling	Official and industry sampling	animal sample > organ/tissue	Imported from outside EU	Animal	11	0		

Table Trichinella in animals

2.9 ECHINOCOCCOSIS

2.9.1 General evaluation of the national situation

2.9.2 Echinococcus in animals

Table Echinococcus in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Region	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis
Foxes - Monitoring		Convenience sampling	Official sampling	animal sample > faeces	Domestic	Animal		37	2		2

	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)		Suspect sampling	Official sampling	animal sample > brain	Domestic	Animal		1	0	0	
Cats - stray cats		Suspect sampling	Official sampling	animal sample > brain	Domestic	Animal		2	0	0	
Bats - wild - Monitoring		Suspect sampling	Official sampling	animal sample > brain	Domestic	Animal		3	1		1
Foxes - wild - Monitoring		Convenience sampling	Official sampling	animal sample > brain	Domestic	Animal		39	0	0	
Raccoons - wild - Monitoring		Convenience sampling	Official sampling	animal sample > brain	Domestic	Animal		2	0	0	

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Cattle (bovine animals)		
Cats - stray cats		
Bats - wild - Monitoring		
Foxes - wild - Monitoring		
Raccoons - 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

2.14 WEST NILE VIRUS INFECTIONS

2.14.1 General evaluation of the national situation

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

3.1.2 Antimicrobial resistance in Escherichia coli, non-pathogenic

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		16	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.25	
	Ceftazidime		0.5	
Fluoroquinolones	Ciprofloxacin		0.064	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Sulfonamides	Sulfonamides		256	
	Sulfamethoxazole		64	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		16	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.25	
	Ceftazidime		0.5	
Fluoroquinolones	Ciprofloxacin		0.064	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
	Sulfamethoxazole		64	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

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

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		16	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.25	
	Ceftazidime		0.5	
Fluoroquinolones	Ciprofloxacin		0.064	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
	Sulfamethoxazole		64	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

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

3.2 ENTEROCOCCUS, NON-PATHOGENIC

3.2.1 General evaluation of the national situation

3.2.2 Antimicrobial resistance in Enterococcus, non-pathogenic isolates

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

Test Method Used	Standard methods used for testing

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		4	

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used	Standard methods used for testing

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

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 CRONOBACTER

4.1.1 General evaluation of the national situation

4.2 HISTAMINE

4.2.1 General evaluation of the national situation

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

5. FOODBORNE

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

A. Foodborne outbreaks

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

Task Force of foodborne outbreaks under the ministery 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					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
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					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Clostridium - Other Clostridia	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Brucella	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Shigella	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

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