

BELGIUM

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

TRENDS AND SOURCES OF ZOONOSSES AND ZOO NOTIC AGENTS IN HUMANS, FOODSTUFFS, ANIMALS AND FEEDINGSTUFFS

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

IN 2012

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Belgium

Reporting Year: 2012

Laboratory name	Description	Contribution
FASFC AFSCA FAVV	Federal Agency for the Safety of the Food Chain	
IPH WIV ISP	Scientific Institute of Public Health	
VAR CODA CERRA	Veterinary and Agrochemical Research Centre	
ITG	Institute of Tropical Medicine	

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 Belgium during the year 2012 .

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	40
2.1.4	Salmonella in feedingstuffs	67
2.1.5	Antimicrobial resistance in Salmonella isolates	79
2.2	CAMPYLOBACTERIOSIS	424
2.2.1	General evaluation of the national situation	424
2.2.2	Campylobacter in foodstuffs	425
2.2.3	Campylobacter in animals	435
2.2.4	Antimicrobial resistance in Campylobacter isolates	436
2.3	LISTERIOSIS	459
2.3.1	General evaluation of the national situation	459
2.3.2	Listeriosis in humans	460
2.3.3	Listeria in foodstuffs	461
2.4	E. COLI INFECTIONS	476
2.4.1	General evaluation of the national situation	476
2.4.2	Escherichia coli, pathogenic in foodstuffs	476
2.4.3	Escherichia coli, pathogenic in animals	483
2.5	TUBERCULOSIS, MYCOBACTERIAL DISEASES	484
2.5.1	General evaluation of the national situation	484
2.5.2	Tuberculosis, mycobacterial diseases in humans	486
2.5.3	Mycobacterium in animals	487
2.6	BRUCELLOSIS	495
2.6.1	General evaluation of the national situation	495
2.6.2	Brucella in foodstuffs	495
2.6.3	Brucella in animals	496
2.7	YERSINIOSIS	505
2.7.1	General evaluation of the national situation	505
2.7.2	Yersiniosis in humans	506
2.7.3	Yersinia in foodstuffs	507
2.7.4	Yersinia in animals	509
2.8	TRICHINELLOSIS	510
2.8.1	General evaluation of the national situation	510
2.8.2	Trichinellosis in humans	512
2.8.3	Trichinella in animals	513
2.9	ECHINOCOCCOSIS	517
2.9.1	General evaluation of the national situation	517

2.10	TOXOPLASMOSIS	518
2.10.1	General evaluation of the national situation	518
2.11	RABIES	519
2.11.1	General evaluation of the national situation	519
2.11.2	Lyssavirus (rabies) in animals	521
2.12	STAPHYLOCOCCUS INFECTION	525
2.12.1	General evaluation of the national situation	525
2.12.2	Staphylococcus in foodstuffs	525
2.12.3	Staphylococcus in animals	536
2.12.4	Antimicrobial resistance in Staphylococcus isolates	538
2.13	Q-FEVER	574
2.13.1	General evaluation of the national situation	574
2.13.2	Coxiella (Q-fever) in animals	576
2.14	CYSTICERCOSIS, TAENIOSIS	578
2.14.1	General evaluation of the national situation	578
2.14.2	Cysticerci in animals	580
2.15	SARCOCYSTOSIS	581
2.15.1	General evaluation of the national situation	581
2.15.2	Sarcocystis in animals	582
2.16	HEPATITIS	583
2.16.1	General evaluation of the national situation	583
2.17	WEST NILE VIRUS INFECTIONS	583
2.17.1	General evaluation of the national situation	583
2.17.2	West Nile Virus in animals	583
3	INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL	586
3.1	ESCHERICHIA COLI, NON-PATHOGENIC	587
3.1.1	General evaluation of the national situation	587
3.1.2	Escherichia coli, non-pathogenic in foodstuffs	588
3.1.3	Antimicrobial resistance in Escherichia coli, non-pathogenic	589
3.2	ENTEROCOCCUS, NON-PATHOGENIC	600
3.2.1	General evaluation of the national situation	600
3.2.2	Enterococcus, non-pathogenic in animals	600
3.2.3	Antimicrobial resistance in Enterococcus, non-pathogenic isolates	601
4	INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS	641
4.1	CRONOBACTER	642
4.1.1	General evaluation of the national situation	642
4.1.2	Cronobacter in foodstuffs	642
4.2	HISTAMINE	644
4.2.1	General evaluation of the national situation	644
4.2.2	Histamine in foodstuffs	644
4.3	STAPHYLOCOCCAL ENTEROTOXINS	646
4.3.1	General evaluation of the national situation	646
4.3.2	Staphylococcal enterotoxins in foodstuffs	646

1. ANIMAL POPULATIONS

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

A. Information on susceptible animal population

Sources of information

SANITEL and BELTRACE database of the Federal Agency for the Safety of the Food Chain.

Dates the figures relate to and the content of the figures

Number of animals = number of animals at a certain time point of the year.

Number of slaughtered animals = total number of slaughtered animals during the year.

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

Holding: any establishment, construction or, in the case of an open-air farm, any place in which animals are held, kept or handled.

The location of the holding is based on the address and the coordinates of the geographical entity. A geographical entity is a unit of one building or a complex of buildings included grounds and territories where an animal species is or could be held.

Herd: an animal or group of animals kept on a holding as an epidemiological unit; if more than one herd is kept on a holding, each of these herds shall form a distinct unit and shall have the same health status.

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

For the last 5 years, there's a significant decrease in total number of holdings of bovines, porcine, sheep, goats and farmed deer. The total number of bovine animals remains unchanged what means that the mean total number of animals per holding is increasing. The total number of porcine, sheep, goats and farmed deer is decreasing.

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

Belgium can be geographically divided into two regions: the Flemish region situated in the north of the country and the Walloon region situated in the south. There's a very dense animal population of bovines, swine and poultry in the Flemish region. The Walloon region is important for his cattle breeding holdings of the Belgian Blue White race. The number of porcine and poultry holdings in the Walloon region is rather limited.

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			512088					
	calves (under 1 year)			312423					
	- in total			824511		2603148		32475	
Deer	farmed - in total					9591		2605	
	farmed - at slaughterhouse			820					
	wild - at game handling establishment			10450					
Gallus gallus (fowl)	breeding flocks, unspecified - in total					1472600			
	laying hens					8870007			
	broilers					25445919			
	- in total			313094063				1591	
Goats	- in total			7553		42950		11255	
Pigs	fattening pigs					5362090			
	breeding animals - unspecified - sows and gilts					566600			

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*
Pigs	- in total			11724297				8690	
Sheep	- in total			116231		201209		28223	
Solipeds, domestic	horses - in total			9199		236447			
Wild boars	wild - at game handling establishment			11691					
Rabbits	farmed			2993525					

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 Salmonella in foodstuffs

A. Salmonella spp. in broiler meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

A monitoring program in Belgian slaughterhouses and cutting plants was organized by the FASFC.

The matrices were carcasses, cuts and meat preparation of broilers. The carcass samples of broiler consisted of 10g of neck skin. The following contamination levels were analyzed: 25g cutting meat and 10g of minced meat of chicken and 1g of chicken carcasses.

Sampling was done by a specially trained staff. For most matrices, independent samples were taken per matrix in order to detect a minimal contamination rate of 1% with 95% confidence.

At retail

An annual control program is designed following the strategy as explained in the MANCP.

Frequency of the sampling

At slaughterhouse and cutting plant

Sampling distributed evenly throughout the year

At meat processing plant

Sampling distributed evenly throughout the year

At retail

Sampling distributed evenly throughout the year

Type of specimen taken

At slaughterhouse and cutting plant

Neck skin and cutting meat

At meat processing plant

Minced meat, sausages, meat and other

At retail

Minced meat, sausages, meat and other

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

The matrices were carcasses, cuts and meat preparation of broilers. The carcass samples of broiler consisted of 10g of neck skin. The following contamination levels were analyzed: 25g cutting meat and 10g of minced meat of chicken and 1g of chicken carcasses.

Belgium - 2012 Report on trends and sources of zoonoses

At meat processing plant

The samples were about 200 g of meat. The detection of Salmonella has been assessed in 10g or 25g of sample.

At retail

The presence of Salmonella has been assessed in 25g of sample.

Definition of positive finding

At slaughterhouse and cutting plant

A sample is considered positive in case of detection of Salmonella in the sample.

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

Control program/mechanisms

The control program/strategies in place

A microbiological control of carcasses and meat of poultry is made with the aim of following the level of contamination by Salmonella.

Measures in case of the positive findings or single cases

In case of positive findings, no measure is taken face to products which entered normally the food chain. But corrective measures must be taken at the level of the slaughterhouse or of the cutting plant by the FBO.

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

The rate of Salmonella contamination of poultry meat observed in 2012 is comparable with the previous years.

B. Salmonella spp. in pig meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

A monitoring program was organized by the FASFC in slaughterhouses and cutting plants.

Sampling was done by a specially trained staff. For most matrices, independent samples were taken per matrix in order to evaluate the contamination with 95% confidence.

Frequency of the sampling

At slaughterhouse and cutting plant

Sampling distributed evenly throughout the year

At meat processing plant

Sampling distributed evenly throughout the year

At retail

Sampling distributed evenly throughout the year

Type of specimen taken

At slaughterhouse and cutting plant

Surface of carcass

At meat processing plant

Minced meat, ham, sausages and other

At retail

Meat, minced meat, ham, pate, sausages, meat salads and other

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

The matrices were carcasses, cuts and minced meat of pork. Sampling of pork carcasses was done by means of swabs. The following contamination levels were analyzed: 10 g or 25g (cutting, minced meat of pork) and 600 cm² (pork carcasses).

At meat processing plant

The samples were more than 200 g of meat. The detection of Salmonella has been assessed in 10g or 25g of sample.

At retail

The presence of Salmonella has been assessed in 10g or 25g of sample.

Definition of positive finding

At slaughterhouse and cutting plant

A sample is considered positive in case of detection of Salmonella in the sample.

At meat processing plant

A sample is considered positive in case of detection of Salmonella in the sample.

At retail

A sample is considered positive in case of detection of Salmonella in the sample.

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

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

The rates of salmonella contamination of carcasses and cutting meat of pig estimated in 2011 were statistically similar to 2010.

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

The main serotype found on Salmonella risk farms (fattening pigs), on carcasses and in pig meat is Salmonella Typhimurium.

C. Salmonella spp. in bovine meat and products thereof

Monitoring system

Sampling strategy

At meat processing plant

A monitoring program was organized at meat processing plants and at retail by the FASFC.

Frequency of the sampling

At meat processing plant

Sampling distributed evenly throughout the year

At retail

Sampling distributed evenly throughout the year

Type of specimen taken

At meat processing plant

Minced meat, sausages and other

At retail

Meat, minced meat, pate, sausages, meat salads and other

Methods of sampling (description of sampling techniques)

At meat processing plant

The samples were more than 200 g of meat. The detection of Salmonella has been assessed in 10g or 25g of sample.

At retail

The presence of Salmonella has been assessed in 10g or 25g of sample.

Definition of positive finding

At slaughterhouse and cutting plant

A sample is considered positive in case of detection of Salmonella in the sample.

At meat processing plant

A sample is considered positive in case of detection of Salmonella in the sample.

At retail

A sample is considered positive in case of detection of Salmonella in the sample.

D. Salmonella spp. in food

Monitoring system

Sampling strategy

A monitoring program was organized by the Federal Agency for the Safety of the Food Chain. More than 200 Belgian slaughterhouses, more than 100 meat cutting plants and more than 100 retail trades representative of the Belgian production, were selected for this study. The samples assayed were carcasses, cuts and minced meat from pork, carcasses, cuts and meat preparation from chicken, layer carcasses, beef minced meat and other foodstuffs. Sampling was done by a specially trained staff of the Federal Agency for the Safety of the Food Chain. For most of the matrices, approximately 100 - 300 independent samples were taken per matrix in order to detect a minimal contamination rate of 1% with 95% confidence. Salmonella isolates were serotyped and serotypes Typhimurium, Enteritidis, Virchow and Hadar were lysotyped. The antibiotic resistance profiles were determined for all isolates, and included ceftriaxone, ampicillin, kanamycin, sulfamethoxazole, tetracycline, nalidixic acid, ciprofloxacin, chloramphenicol and trimethoprim.

Frequency of the sampling

Meat samples have been taken every week from the first to the 52nd week.

Samples are taken according to the national control program or in the frame of RASFF, complaints or suspicion.

Type of specimen taken

Meat, milk and dairy products and other foods such as eggs, fishery products, ...

Methods of sampling (description of sampling techniques)

Sampling of pork carcasses was done by means of swabs. The carcass samples of broiler and layer consisted of 10g of neck skin. The other samples were about 200g of meat.

The detection of Salmonella has been assessed in these dilutions: 25g (cutting and minced meat of pork, chicken cuts and beef), 600 cm² (pork carcasses), and 1g (chicken and layer carcasses, chicken meat preparation).

Definition of positive finding

A sample is considered to be positive after biochemical confirmation of one Salmonella spp. in the sample.

Diagnostic/analytical methods used

Five laboratories licensed by the Federal Agency for the Safety of the Food Chain and accredited following ISO 17025 standard analyzed all the samples. The Belgian official method SP-VG-M002 was used for the detection of Salmonella in 25g, 1g or on swabs:

- pre-enrichment in buffered peptone water at 37°C for 16 to 20 h,
- selective enrichment on the semi-solid Diassalm medium at 42°C for 24 h,
- isolation of positive colonies on XLD at 37°C for 24 h,
- confirmation of minimum 2 colonies on TSI at 37°C and miniaturised biochemical tests,
- serotyping and lysotyping were done at the National Reference Center for Salmonella and Shigella (NRCSS-IPH) and at the Institute Pasteur, both located in Brussels, respectively.
- antibiotic resistance determination by IPH Brussels by disk diffusion method.

Preventive measures in place

Controls are made in place by the Federal Agency in case of notification.

Control program/mechanisms

The control program/strategies in place

Notification is mandatory since 1/3/2004 (Ministerial Decree on mandatory notification in the food chain of 22/1/2004). For Salmonella, absence in 25g in ready-to-eat food putted on the market is mandatory.

Laboratories have to inform the Federal Agency in case of a positive sample.

Measures in case of the positive findings or single cases

Measures to be taken in the case of a non-compliant result:

- Notification of the producer or importer
- Possibility of a counter analysis
- Destruction of the non compliant batch or single sample
- Further investigation: additional sampling, possible recall, RASFF, ...

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) - carcase - at slaughterhouse - Surveillance	PRI 003	Objective sampling	Official sampling	food sample > neck skin		Single	1g	270	3		
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance	TRA 200	Objective sampling	Official sampling	food sample > meat		Single	25g	590	22		2
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance	DIS 819 - DIS 821	Unspecified	Official sampling	food sample		Batch	25 g	406	20	2	
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance	TRA 202	Unspecified	Official sampling	food sample		Batch	25 g	49	6		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance	DIS 826	Unspecified	Official sampling	food sample		Batch	25 g	56	1		
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance	TRA 416	Unspecified	Official sampling	food sample		Batch	25 g	45	0		
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance	TRA 208	Unspecified	Official sampling	food sample		Batch	25 g	56	0		
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - Surveillance	DIS 876	Unspecified	Official sampling	food sample		Batch	25 g	42	0		
Meat from turkey - fresh - at retail - Surveillance	DIS 821	Unspecified	Official sampling	food sample		Batch	25 g	14	2		1
Meat from turkey - meat products - raw but intended to be eaten cooked - at retail - Surveillance	DIS 876	Unspecified	Official sampling	food sample		Batch	25 g	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 broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance	DIS 801	Unspecified	Official sampling	food sample		Batch	25 g	47	0		
Meat from other poultry species - carcase - at slaughterhouse - Surveillance (laying hens)	PRI 004	Objective sampling	Official sampling	food sample > neck skin		Single	1g	444	50	29	3
Meat from poultry, unspecified - fresh - at retail - Surveillance	DIS 821	Unspecified	Official sampling	food sample		Batch	25 g	5	0		
Meat from turkey - meat preparation - intended to be eaten cooked - at processing plant - Surveillance	TRA 202	Unspecified	Official sampling	food sample		Batch	25 g	10	0		
Meat from turkey - meat preparation - intended to be eaten cooked - at retail - Surveillance	DIS 826	Unspecified	Official sampling	food sample		Batch	25 g	2	0		
Meat from turkey - meat products - cooked, ready-to-eat - at retail - Surveillance	DIS 801	Unspecified	Official sampling	food sample		Batch	25 g	4	0		
Meat from turkey - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance	TRA 208	Unspecified	Official sampling	food sample		Batch	25 g	2	1		
	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	Other serovars	S. 4,5:i:-	S. 4:i:-	S. 6,7:-:-	S. Bareilly	S. Braenderup	S. Derby	S. Grampian	S. Indiana
Meat from broilers (Gallus gallus) - carcase - at slaughterhouse - Surveillance						1					
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance		6	1		1						

Table Salmonella in poultry meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	Other serovars	S. 4,5:i:-	S. 4:i:-	S. 6,7:-:-	S. Bareilly	S. Braenderup	S. Derby	S. Grampian	S. Indiana
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance		2						4		1	1
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance		3							1		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance									1		
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance											
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance											
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - Surveillance											
Meat from turkey - fresh - at retail - Surveillance			1								
Meat from turkey - meat products - raw but intended to be eaten cooked - at retail - Surveillance											
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance											
Meat from other poultry species - carcase - at slaughterhouse - Surveillance (laying hens)							2	12	1		1

Table Salmonella in poultry meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	Other serovars	S. 4,5:i:-	S. 4:i:-	S. 6,7:-:-	S. Bareilly	S. Braenderup	S. Derby	S. Grampian	S. Indiana
Meat from poultry, unspecified - fresh - at retail - Surveillance											
Meat from turkey - meat preparation - intended to be eaten cooked - at processing plant - Surveillance											
Meat from turkey - meat preparation - intended to be eaten cooked - at retail - Surveillance											
Meat from turkey - meat products - cooked, ready-to-eat - at retail - Surveillance											
Meat from turkey - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance				1							

	S. Infantis	S. Kentucky	S. Minnesota	S. Paratyphi B	S. Senftenberg	S. Stanleyville	S. Typhimurium var. Copenhagen	S. Virchow
Meat from broilers (Gallus gallus) - carcase - at slaughterhouse - Surveillance		1	1					
Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance			1	8	1		1	1
Meat from broilers (Gallus gallus) - fresh - at retail - Surveillance	2	1	1	5		1		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance				2				

Table Salmonella in poultry meat and products thereof

	S. Infantis	S. Kentucky	S. Minnesota	S. Paratyphi B	S. Senftenberg	S. Stanleyville	S. Typhimurium var. Copenhagen	S. Virchow
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance								
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance								
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance								
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - Surveillance								
Meat from turkey - fresh - at retail - Surveillance								
Meat from turkey - meat products - raw but intended to be eaten cooked - at retail - Surveillance								
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance								
Meat from other poultry species - carcase - at slaughterhouse - Surveillance (laying hens)	2							
Meat from poultry, unspecified - fresh - at retail - Surveillance								
Meat from turkey - meat preparation - intended to be eaten cooked - at processing plant - Surveillance								

Table Salmonella in poultry meat and products thereof

	S. Infantis	S. Kentucky	S. Minnesota	S. Paratyphi B	S. Senftenberg	S. Stanleyville	S. Typhimurium var. Copenhagen	S. Virchow
Meat from turkey - meat preparation - intended to be eaten cooked - at retail - Surveillance								
Meat from turkey - meat products - cooked, ready-to-eat - at retail - Surveillance								
Meat from turkey - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance								

Table Salmonella in milk and dairy products

	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
Milk, cows' - raw milk - intended for direct human consumption - at farm - Surveillance ¹⁾	PRI 013	Unspecified	Official sampling	food sample > milk	Domestic	Batch	25 ml	40	0		
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance ²⁾	DIS 818	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	22	0		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance ³⁾	TRA 133	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	30	0		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance ⁴⁾	DIS 818	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	30	0		
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance ⁵⁾	TRA 123	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	43	1	1	
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant - Surveillance ⁶⁾	TRA 134	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	20	0		
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - Surveillance ⁷⁾	DIS 818	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	19	0		
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm - Surveillance ⁸⁾	PRI 008	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	10	0		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance ⁹⁾	TRA 134	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	36	0		

Table Salmonella in milk and dairy products

	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
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance ¹⁰⁾	DIS 818	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	39	0		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at farm - Surveillance ¹¹⁾	PRI 008	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	18	0		
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at processing plant - Surveillance ¹²⁾	TRA 134	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	57	0		
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at retail - Surveillance ¹³⁾	DIS 818	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	59	0		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance ¹⁴⁾	PRI 008	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	8	0		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance ¹⁵⁾	TRA 133	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	33	0		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance ¹⁶⁾	DIS 818	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	33	0		
Cheeses made from sheep's milk - unspecified - made from pasteurised milk - at retail - Surveillance ¹⁷⁾	DIS 818	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	118	0		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance ¹⁸⁾	PRI 008	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	10	0		

Table Salmonella in milk and dairy products

	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
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance ¹⁹⁾	TRA 133	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	8	0		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance ²⁰⁾	DIS 818	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	58	0		
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at farm - Surveillance ²¹⁾	PRI 009	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	35	0		
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at farm - Surveillance ²²⁾	PRI 025	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	35	0		
Dairy products (excluding cheeses) - ice-cream - at farm - Surveillance ²³⁾	PRI 006 - PRI 010	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	48	0		
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance ²⁴⁾	DIS 859	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	47	0		
Dairy products (excluding cheeses) - milk powder and whey powder - at border control - Surveillance ²⁵⁾	IEC 501	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	8	0		
Milk, cows' - raw milk - intended for direct human consumption - at retail - Surveillance ²⁶⁾	DIS 837	Unspecified	Official sampling	food sample	Domestic	Batch	25 ml	8	0		

Table Salmonella in milk and dairy products

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Milk, cows' - raw milk - intended for direct human consumption - at farm - Surveillance ¹⁾		
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance ²⁾		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance ³⁾		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance ⁴⁾		
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance ⁵⁾		
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant - Surveillance ⁶⁾		
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - Surveillance ⁷⁾		
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm - Surveillance ⁸⁾		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance ⁹⁾		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance ¹⁰⁾		

Table Salmonella in milk and dairy products

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at farm - Surveillance ¹¹⁾		
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at processing plant - Surveillance ¹²⁾		
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at retail - Surveillance ¹³⁾		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance ¹⁴⁾		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance ¹⁵⁾		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance ¹⁶⁾		
Cheeses made from sheep's milk - unspecified - made from pasteurised milk - at retail - Surveillance ¹⁷⁾		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance ¹⁸⁾		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance ¹⁹⁾		

Table Salmonella in milk and dairy products

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance ²⁰⁾		
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at farm - Surveillance ²¹⁾		
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at farm - Surveillance ²²⁾		
Dairy products (excluding cheeses) - ice-cream - at farm - Surveillance ²³⁾		
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance ²⁴⁾		
Dairy products (excluding cheeses) - milk powder and whey powder - at border control - Surveillance ²⁵⁾		
Milk, cows' - raw milk - intended for direct human consumption - at retail - Surveillance ²⁶⁾		

Comments:

- ¹⁾ sampling of 200 ml
- ²⁾ sampling of 200 g
- ³⁾ sampling of > 300 g
- ⁴⁾ sampling of 200 g
- ⁵⁾ sampling of > 300 g

Table Salmonella in milk and dairy products

Comments:

- 6) sampling of > 300 g
- 7) sampling of 200 g
- 8) sampling of 200 g
- 9) sampling of > 300 g
- 10) sampling of 200 g
- 11) sampling of 200 g
- 12) sampling of > 300 g
- 13) sampling of 200 g
- 14) sampling of 200 g
- 15) sampling of > 300 g
- 16) sampling of 200 g
- 17) sampling of 200 g
- 18) sampling of 200 g
- 19) sampling of > 300 g
- 20) sampling of 200 g
- 21) sampling of 200 g
- 22) sampling of 200 g
- 23) sampling of 200 g
- 24) sampling of 200 g
- 25) sampling of > 300 g
- 26) sampling of 200 ml

Table Salmonella in milk and dairy products

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	DIS 868	Unspecified	Official sampling	food sample		Batch	25 g	118	0		
Egg products - at processing plant - Surveillance	TRA 105	Unspecified	Official sampling	food sample	Domestic	Batch	25 g	114	0		
Fishery products, unspecified - cooked - at processing plant - Surveillance	TRA 402	Unspecified	Official sampling	food sample		Batch	25 g	45	0		
Fishery products, unspecified - cooked - at retail - Surveillance	DIS 808	Unspecified	Official sampling	food sample		Batch	25 g	46	0		
Crustaceans - unspecified - cooked - at retail - Surveillance	DIS 852	Unspecified	Official sampling	food sample		Batch	25 g	46	0		
Live bivalve molluscs - unspecified - at retail - Surveillance	DIS 806	Unspecified	Official sampling	food sample		Batch	25 g	92	1		
Foodstuffs intended for special nutritional uses - dried dietary foods for special medical purposes intended for infants below 6 months - at retail - Surveillance	DIS 862	Unspecified	Official sampling	food sample		Batch	25 g	59	1		
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance	DIS 803	Unspecified	Official sampling	food sample		Batch	25 g	86	0		
Juice - fruit juice - unpasteurised - at retail - Surveillance	DIS 872	Unspecified	Official sampling	food sample		Batch	25 ml	74	0		
Bakery products - desserts - at retail - Surveillance	DIS 849	Unspecified	Official sampling	food sample		Batch	25 g	68	0		
Bakery products - desserts - containing raw eggs - at retail - Surveillance	DIS 861	Unspecified	Official sampling	food sample		Batch	25 g	43	0		
Chocolate - at retail - Surveillance	DIS 834	Unspecified	Official sampling	food sample		Batch	25 g	46	0		

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
Confectionery products and pastes - chocolate-based product - at retail - Surveillance	DIS 835	Unspecified	Official sampling	food sample		Batch	25 g	46	0		
Crustaceans - unspecified - cooked - at processing plant - Surveillance	TRA 403	Unspecified	Official sampling	food sample		Batch	25 g	45	0		
Crustaceans - unspecified - raw - at processing plant - Surveillance	TRA 403	Unspecified	Official sampling	food sample		Batch	10 g	45	1		
Crustaceans - unspecified - raw - at retail - Surveillance	DIS 852	Unspecified	Official sampling	food sample		Batch	25 g	46	0		
Egg products - at retail - Surveillance	DIS 885	Unspecified	Official sampling	food sample		Batch	25 g	20	0		
Fishery products, unspecified - raw - at retail - Surveillance (could be consumed raw (ingrédient in carpaccio, sushi, ...))	DIS 873	Unspecified	Official sampling	food sample		Batch	25 g	90	0		
Frogs leg - at border control - Surveillance	IEC 016	Unspecified	Official sampling	food sample	Imported from outside EU	Batch	25 g	17	10	2	
Fruits - whole - at retail - Surveillance (mango)	DIS 841	Unspecified	Official sampling	food sample		Batch	25 g	10	0		
Fruits - whole - at retail - Surveillance (melon)	DIS 841	Unspecified	Official sampling	food sample		Batch	25 g	114	0		
Fruits - whole - at retail - Surveillance (red berries)	DIS 855	Unspecified	Official sampling	food sample		Batch	25 g	46	0		
Fruits and vegetables - pre-cut - at retail - Surveillance	DIS 813	Unspecified	Official sampling	food sample		Batch	25 g	60	1		
Infant formula - dried - intended for infants below 6 months - at processing plant - Surveillance	TRA 171	Unspecified	Official sampling	food sample		Batch	25 g	10	0		
Infant formula - ready-to-eat - at hospital or care home - Surveillance	DIS 839	Unspecified	Official sampling	food sample		Batch	25 g	110	0		

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
Molluscan shellfish - cooked - at processing plant - Surveillance	TRA 401	Unspecified	Official sampling	food sample		Batch	25 g	45	0		
Other products of animal origin - gelatin and collagen - at border control - Surveillance	IEC 019	Unspecified	Official sampling	food sample		Batch	25 g	10	0		
Other products of animal origin - gelatin and collagen - at processing plant - Surveillance	TRA 357	Unspecified	Official sampling	food sample		Batch	25 g	4	0		
Other products of animal origin - gelatin and collagen - at retail - Surveillance	DIS 892	Unspecified	Official sampling	food sample		Batch	25 g	87	0		
Spices and herbs - dried - at retail - Surveillance	DIS 828	Unspecified	Official sampling	food sample		Batch	25 g	59	0		
Spices and herbs - fresh - at retail - Surveillance	DIS 841	Unspecified	Official sampling	food sample		Batch	25 g	88	0		
Surimi - at border control - Surveillance	IEC 004	Unspecified	Official sampling	food sample	Imported from outside EU	Batch	25 g	17	0		
Vegetables - at retail - Surveillance	DIS 841	Unspecified	Official sampling	food sample		Batch	25 g	359	0		
	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 3.10:r:-	S. 4,5:b	S. Dabou	S. Hvittingfoss	S. Malstatt	S. Panama	S. Paratyphi B	S. Wandsworth	
Eggs - table eggs - at retail - Surveillance											
Egg products - at processing plant - Surveillance											
Fishery products, unspecified - cooked - at processing plant - Surveillance											
Fishery products, unspecified - cooked - at retail - Surveillance											

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 3.10:r:-	S. 4,5:b	S. Dabou	S. Hvitittingfoss	S. Malstatt	S. Panama	S. Paratyphi B	S. Wandsworth
Crustaceans - unspecified - cooked - at retail - Surveillance										
Live bivalve molluscs - unspecified - at retail - Surveillance							1			
Foodstuffs intended for special nutritional uses - dried dietary foods for special medical purposes intended for infants below 6 months - at retail - Surveillance		1								
Infant formula - dried - intended for infants below 6 months - at retail - Surveillance										
Juice - fruit juice - unpasteurised - at retail - Surveillance										
Bakery products - desserts - at retail - Surveillance										
Bakery products - desserts - containing raw eggs - at retail - Surveillance										
Chocolate - at retail - Surveillance										
Confectionery products and pastes - chocolate-based product - at retail - Surveillance										
Crustaceans - unspecified - cooked - at processing plant - Surveillance										
Crustaceans - unspecified - raw - at processing plant - Surveillance			1							
Crustaceans - unspecified - raw - at retail - Surveillance										

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 3.10:r:-	S. 4,5:b	S. Dabou	S. Hvitittingfoss	S. Malstatt	S. Panama	S. Paratyphi B	S. Wandsworth
Egg products - at retail - Surveillance										
Fishery products, unspecified - raw - at retail - Surveillance (could be consumed raw (ingrediënt in carpaccio, sushi, ...))										
Frogs leg - at border control - Surveillance				1	1	2		1	2	1
Fruits - whole - at retail - Surveillance (mango)										
Fruits - whole - at retail - Surveillance (melon)										
Fruits - whole - at retail - Surveillance (red berries)										
Fruits and vegetables - pre-cut - at retail - Surveillance		1								
Infant formula - dried - intended for infants below 6 months - at processing plant - Surveillance										
Infant formula - ready-to-eat - at hospital or care home - Surveillance										
Molluscan shellfish - cooked - at processing plant - Surveillance										
Other products of animal origin - gelatin and collagen - at border control - Surveillance										
Other products of animal origin - gelatin and collagen - at processing plant - Surveillance										
Other products of animal origin - gelatin and collagen - at retail - Surveillance										
Spices and herbs - dried - at retail - Surveillance										

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 3.10:r:-	S. 4,5:b	S. Dabou	S. Hvittingfoss	S. Malstatt	S. Panama	S. Paratyphi B	S. Wandsworth
Spices and herbs - fresh - at retail - Surveillance										
Surimi - at border control - Surveillance										
Vegetables - at retail - Surveillance										

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 - carcass - at slaughterhouse - Surveillance	PRI 002	Objective sampling	Official sampling	food sample > carcass swabs	Domestic	Single	600 cm2	535	58		17
Meat from pig - fresh - at processing plant - Surveillance	TRA 306	Objective sampling	Official sampling	food sample > meat	Domestic	Single	25g	151	4	1	
Meat from pig - fresh - at retail - Surveillance	DIS 802	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	14	0		
Meat from pig - minced meat - intended to be eaten raw - at retail - Surveillance	DIS 823	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	12	2		
Meat from pig - meat preparation - intended to be eaten raw - at retail - Surveillance	DIS 874	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	10	0		
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance	DIS 875	Objective sampling	Official sampling	food sample	Unknown	Batch	10 g	46	1	0	
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Surveillance	DIS 823	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	44	0		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - Surveillance	DIS 875	Objective sampling	Official sampling	food sample	Unknown	Batch	10 g	11	0		
Meat from bovine animals - meat preparation - intended to be eaten raw - at retail - Surveillance	DIS 874 - DIS 815	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	284	0		
Meat from bovine animals - meat products - fermented sausages - at processing plant - Surveillance	TRA 302	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	2	0		
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance	TRA 312	Objective sampling	Official sampling	food sample	Unknown	Batch	10 g	59	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 bovine animals and pig - meat preparation - intended to be eaten raw - at processing plant - Surveillance	TRA 316	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	60	2		
Meat from bovine animals and pig - meat products - at processing plant - Surveillance	TRA 302	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	2	0		
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail - Surveillance	DIS 823	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	4	0		
Meat from other animal species or not specified - at retail - Surveillance (pitta meat)	DIS 883	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	82	0		
Meat from other animal species or not specified - fresh - at retail - Surveillance	DIS 802	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	7	0		
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at processing plant - Surveillance	TRA 416 - TRA 300	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	90	0		
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at retail - Surveillance	DIS 801	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	95	0		
Meat from pig - meat products - fermented sausages - at processing plant - Surveillance	TRA 302 - TRA 317	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	41	0		
Meat from pig - meat products - fermented sausages - at retail - Surveillance	DIS 801	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	38	0		
Meat from pig - meat products - raw ham - at processing plant - Surveillance	TRA 317	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	42	0		
Meat from pig - meat products - raw ham - at retail - Surveillance	DIS 801	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	46	0		

Table Salmonella in red meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Agona	S. Bovismorbificans	S. Brandenburg	S. Derby	S. Infantis	S. Isangi	S. Livingstone	S. London	S. Mbandaka
Meat from pig - carcass - at slaughterhouse - Surveillance		4	1		4	5	1	1	5	2	1
Meat from pig - fresh - at processing plant - Surveillance		1				1					
Meat from pig - fresh - at retail - Surveillance											
Meat from pig - minced meat - intended to be eaten raw - at retail - Surveillance		1				1					
Meat from pig - meat preparation - intended to be eaten raw - at retail - Surveillance											
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance				1							
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Surveillance											
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - Surveillance											
Meat from bovine animals - meat preparation - intended to be eaten raw - at retail - Surveillance											
Meat from bovine animals - meat products - fermented sausages - at processing plant - Surveillance											
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance						1					

Table Salmonella in red meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Agona	S. Bovismorbificans	S. Brandenburg	S. Derby	S. Infantis	S. Isangi	S. Livingstone	S. London	S. Mbandaka
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at processing plant - Surveillance		1				1					
Meat from bovine animals and pig - meat products - at processing plant - Surveillance											
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail - Surveillance											
Meat from other animal species or not specified - at retail - Surveillance (pitta meat)											
Meat from other animal species or not specified - fresh - at retail - Surveillance											
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at processing plant - Surveillance											
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at retail - Surveillance											
Meat from pig - meat products - fermented sausages - at processing plant - Surveillance											
Meat from pig - meat products - fermented sausages - at retail - Surveillance											
Meat from pig - meat products - raw ham - at processing plant - Surveillance											
Meat from pig - meat products - raw ham - at retail - Surveillance											

Table Salmonella in red meat and products thereof

	S. Newport	S. Ohio	S. Typhimurium var. Copenhagen	S. Typhimurium, monophasic
Meat from pig - carcass - at slaughterhouse - Surveillance		1	9	7
Meat from pig - fresh - at processing plant - Surveillance	1			
Meat from pig - fresh - at retail - Surveillance				
Meat from pig - minced meat - intended to be eaten raw - at retail - Surveillance				
Meat from pig - meat preparation - intended to be eaten raw - at retail - Surveillance				
Meat from pig - meat preparation - intended to be eaten cooked - at retail - Surveillance				
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Surveillance				
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - Surveillance				
Meat from bovine animals - meat preparation - intended to be eaten raw - at retail - Surveillance				
Meat from bovine animals - meat products - fermented sausages - at processing plant - Surveillance				
Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance				

Table Salmonella in red meat and products thereof

	S. Newport	S. Ohio	S. Typhimurium var. Copenhagen	S. Typhimurium, monophasic
Meat from bovine animals and pig - meat preparation - intended to be eaten raw - at processing plant - Surveillance				
Meat from bovine animals and pig - meat products - at processing plant - Surveillance				
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail - Surveillance				
Meat from other animal species or not specified - at retail - Surveillance (pitta meat)				
Meat from other animal species or not specified - fresh - at retail - Surveillance				
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at processing plant - Surveillance				
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at retail - Surveillance				
Meat from pig - meat products - fermented sausages - at processing plant - Surveillance				
Meat from pig - meat products - fermented sausages - at retail - Surveillance				
Meat from pig - meat products - raw ham - at processing plant - Surveillance				
Meat from pig - meat products - raw ham - at retail - Surveillance				

Table Salmonella in red meat and products thereof

2.1.3 Salmonella in animals

A. Salmonella spp. in Gallus Gallus - breeding flocks

Monitoring system

Sampling strategy

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

Breeding flocks are sampled as day-old chicks, at the age of 4 and 16 weeks and every 2 weeks during production. An official control takes place at 16 weeks, 22 weeks, 46 weeks and 58 or 62 weeks. A specific Salmonella control is performed 4 times a year in the hatcheries by the owner.

Frequency of the sampling

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

Every flock is sampled

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

As day old chicks and at the age of 4 and 16 weeks

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

Every 2 weeks

Type of specimen taken

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

Internal linings of delivery boxes

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

Socks/ boot swabs

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

Socks/ boot swabs

Methods of sampling (description of sampling techniques)

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

At the farm, pieces (5 by 5 cm) of the inner linings of delivery boxes are taken of each flock. 2 samples are taken, one for the hen-chicks and one for the cock-chicks. Each sample consists of 20 pieces of interlining. The two samples are analyzed separately. On voluntary basis, 20 living hen-chicks and 20 living cock-chicks are brought to the laboratory for serological testing.

The samples have to be taken the day of delivery, the samples have to reach the lab within 24 hours of sampling.

In the hatcheries, pooled samples from dead-in-the-shell chicks and of fluff and meconium, are taken by the owner every 3 months. These are sent to an accredited laboratory.

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

Samples are taken by the owner at 4 weeks and by one of the animal health organizations at 16 weeks, both in accordance with regulation (EU) Nr. 200/2010.

Breeding flocks: Production period

All samples are taken in accordance with Regulation (EC) Nr. 200/2010.

Case definition

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

A sample is considered positive if *Salmonella* Enteritidis, Typhimurium, Hadar, Infantis, Virchow or Paratyphi B var. Java is isolated. A flock is considered positive as soon as one sample is positive.

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

A sample is considered positive if *Salmonella* Enteritidis, Typhimurium, Hadar, Infantis, Virchow or Paratyphi B var. Java is isolated. A flock is considered positive as soon as one sample is positive. If the farmer requests a confirmation sampling, new samples (5 feces and 2 dust samples) are taken by or under the supervision of the competent authority. The result of the confirmation sampling is binding.

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

A sample is considered positive if *Salmonella* Enteritidis, Typhimurium, Hadar, Infantis, Virchow or Paratyphi B var. Java is isolated. A flock is considered positive as soon as one sample is positive. If the farmer requests a confirmation sampling, new samples (5 feces and 2 dust samples) are taken by or under the supervision of the competent authority. The result of the confirmation sampling is binding.

Diagnostic/analytical methods used

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

Bacteriological method: ISO 6579:2002 annex D

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period

Bacteriological method: ISO 6579:2002 annex D

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

Bacteriological method: ISO 6579:2002 annex D in accordance with Regulation (EC) Nr. 200/2010.

Vaccination policy

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

Vaccination against *Salmonella* Enteritidis is compulsory for parent breeding flocks and prohibited for grand parent flocks. Vaccination against *Salmonella* Typhimurium is strongly recommended for parent breeding flocks and prohibited for grandparent flocks.

Other preventive measures than vaccination in place

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

All breeding flocks must have a Health Qualification A. The qualification consists of minimal requirements for infrastructure, management, hygiene and biosecurity measures.

Control program/mechanisms

The control program/strategies in place

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

The national control programme for *Salmonella* in breeding flocks is based on Regulations (EG) Nrs. 2160/2003, 200/2010 and 1177/2006.

Measures in case of the positive findings or single cases

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

- 1) treatment of flock with antimicrobials is forbidden;
- 2) Incubation of hatching eggs is prohibited;
- 3) Incubated hatching eggs are removed and destroyed;
- 4) Not yet incubated hatching eggs may be pasteurized and put on the market for human consumption;
- 5) Positive breeding flocks are slaughtered within the month;
- 6) Cleaning and disinfection of housing after removal of the breeding flock;

- 7) After cleaning and disinfection, a hygienogram is performed;
- 8) Sampling of the house (swab control) for the detection of Salmonella;
- 8) A new flock is admitted if Salmonella can not be found after cleaning and disinfection, otherwise the disinfection and swab control is repeated.

Notification system in place

Zoonotic Salmonella is notifiable since the first of January 2004. Notification is done by phone, fax or electronically to the Federal Agency for the Safety of the Food Chain. Laboratories and farmers are submitted to the notification.

Results of the investigation

Salmonella was not found in day old chicks (110 batches). During rearing (317 flocks), *S. Agona* was found in 2 flocks, *S. Minnesota* and *S. O3,19:-:-* were each found in 1 flock. In addition, 2 flocks were considered negative for Salmonella Enteritidis after confirmation sampling.

During production, of the 557 flocks (grandparent and parent flocks), 1 flock was positive for *S. Enteritidis*, 1 flock for *S. Paratyphi B* var. Java and 12 flocks were positive for serotypes not included in the programme. In addition, 1 flock was considered negative for Salmonella Enteritidis after confirmation sampling, 1 flock for Salmonella Paratyphi B var. Java and 4 flocks for Salmonella Typhimurium. These flocks do not count as positive flocks.

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

During rearing, the number of positive flocks (all Salmonella spp.) decreased from 6 in 2008 to 3 in 2009, increased to 7 in 2010 after which a decrease is seen to 4 in 2011 and 2012.

During production, the number of positive flocks for Salmonella serotypes for which a target is set fluctuates between 0 and 3 in recent years. In 2012, 1 positive flocks was found. The source of infection could not be traced. The number of positive flocks of other serotypes has decreased slightly from 16 in 2011 to 12 in 2012. A positive point is the decrease in the number of suspicious flocks where the presence of Salmonella could not be confirmed from 11 in 2011 tot 6 in 2012. All but one (*S. O6,8:Z10:-*) serotypes found in breeders were also found in broilers.

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

The total number of reported human Salmonella isolates decreased in 2012 to 3.164 (3.231 in 2011) mainly due to a decrease of the number of Salmonella Typhimurium cases to 1.699 (2.030 in 2011). For the first time in several years there was a slight increase in the number of reported human Salmonella Enteritidis cases seen in 2012. *S. Enteritidis*, *S. Minnesota* and *S. Paratyphi B* were found in breeders, broilers, broiler meat at the level of transformation and/or distribution and human cases.

B. Salmonella spp. in Gallus Gallus - broiler flocks

Monitoring system

Sampling strategy

Broiler flocks

The official surveillance program for broilers in accordance with Regulations (EC) Nos 2160/2003 and 646/2007 started in 2009. It is compulsory to sample all flocks on farms with a capacity of 200 or more birds as day-old chicks and in the last three weeks before slaughter.

Frequency of the sampling

Broiler flocks: Day-old chicks

Each 'batch' of day-old chicks that enters the farm must be sampled in the hatchery or when arriving on the farm

Broiler flocks: Before slaughter at farm

Every flock is sampled in the last 3 weeks before slaughter.

Broiler flocks: At slaughter (flock based approach)

Sampling distributed evenly throughout the year

Type of specimen taken

Broiler flocks: Day-old chicks

Internal linings of delivery boxes or hatcher basket liners

Broiler flocks: Before slaughter at farm

Socks/ boot swabs

Broiler flocks: At slaughter (flock based approach)

Organs: caeca

Methods of sampling (description of sampling techniques)

Broiler flocks: Day-old chicks

Pieces of inner linings of the delivery boxes are sampled by the owner in the same way as for breeding flocks. The samples have to reach an accredited laboratory within 48 hours of sampling.

Broiler flocks: Before slaughter at farm

All flocks are sampled, by the owner, within 3 weeks before slaughter. The sampling is performed in accordance with Regulation (EU) n° 200/2012. Samples have to reach an accredited laboratory within 48 hours.

Broiler flocks: At slaughter (flock based approach)

The intact caeca of 10 poultry from the same flock are taken at the slaughterhouse with the aim to determine the load of Salmonella spp. entering the slaughterhouse.

Case definition

Broiler flocks: Day-old chicks

A sample is considered positive if a Salmonella spp. is isolated. A flock is considered positive as soon as one sample is positive.

Broiler flocks: Before slaughter at farm

A sample is considered positive if a Salmonella spp. is isolated. A flock is considered positive as soon as one sample is positive.

Diagnostic/analytical methods used

Broiler flocks: Day-old chicks

Bacteriological method: ISO 6579:2002 annex D

Broiler flocks: Before slaughter at farm

Bacteriological method: ISO 6579:2002 annex D

Broiler flocks: At slaughter (flock based approach)

Bacteriological method: ISO 6579:2002 annex D

Vaccination policy

Broiler flocks

There is no vaccination policy for broiler flocks.

Other preventive measures than vaccination in place

Broiler flocks

Minimal requirements are laid down for holdings with at least 200 broilers on infrastructure, management, hygiene and bio-security issues in the framework of the sanitary qualification.

Control program/mechanisms

The control program/strategies in place

Broiler flocks

The sanitary qualification for farms with more than 200 birds contains preventive measures (infrastructure, management, hygiene and biosecurity) for the control of Salmonella.

Following measures are taken when a flock is positive for Salmonella spp:

1° logistic slaughter of the flock at the end of production.

2° mandatory cleaning and disinfection.

3° hygienogram after disinfection and after the house has dried up.

4° swab control on the presence of Salmonella before restocking the house.

If the following flock is positive for the same serotype of Salmonella, the disinfection must be performed by an external company.

When the same serotype of Salmonella is found at three consecutive times, the farm must be evaluated on biosecurity and hygiene by the farm veterinarian and necessary measures must be taken. An epidemiological investigation and/or tests are performed to find the source of the infection.

It is at all times prohibited to treat for Salmonella with antibiotics.

Measures in case of the positive findings or single cases

Broiler flocks: Day-old chicks

It is prohibited to treat the flock for Salmonella with antibiotics.

Broiler flocks: Before slaughter at farm

See 'the control program/strategies' in place.

Notification system in place

Zoonotic Salmonella is notifiable since the first of January 2004. Notification is done by phone, fax or by e-mail to the Federal Agency for the Safety of the Food Chain. Farmers and laboratories are obliged to notify.

Results of the investigation

5.593 batches of day-old chicks were sampled, 26 were positive for Salmonella spp. of which 11 for S. Enteritidis, 2 for S. Typhimurium and 9 for S. Minnesota.

8.739 flocks of broilers were sampled in the last 3 weeks of production. 301 flocks were positive for *Salmonella* spp. of which 33 for *S. Typhimurium* and 17 for *S. Enteritidis*. This is the highest number of *S. Enteritidis* positive flocks since the start of the programme. The main serotype found was the same as in 2011, *Salmonella* Paratyphi B (incl. var. Java).

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

The prevalence of all serotypes in day old chicks has decreased compared to 2011. However there was a high number of batches of day-old chicks positive for *Salmonella* Enteritidis. There was still a higher number of *S. Minnesota* positive flocks due to positive breeders in 2011.

The prevalence in broiler flocks of *Salmonella* Enteritidis and *Salmonella* Typhimurium has increased compared with the results of 2011. The increase of the number of *S. Paratyphi* B (incl. var. Java) positive flocks continued in 2012.

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

The total number of reported human *Salmonella* isolates decreased in 2012 to 3.164 (3.231 in 2011) mainly due to a decrease of the number of *Salmonella* Typhimurium cases to 1.699 (2.030 in 2011). For the first time in several years there was a slight increase in the number of reported human *Salmonella* Enteritidis cases seen in 2012. *S. Enteritidis*, *S. Minnesota* and *S. Paratyphi* B were found in breeders, broilers, broiler meat at the level of transformation and/or distribution and in human cases.

C. Salmonella spp. in Gallus Gallus - flocks of laying hens

Monitoring system

Sampling strategy

Laying hens flocks

All laying hen flocks on farms with at least 200 laying hens are under the Salmonella control programme. Flocks are sampled by the owner at the age of day old chicks, 16, 24, 39 and 54 weeks and in the last 3 weeks of production. When a flock has a second production cycle, the sampling continues.

Frequency of the sampling

Laying hens: Day-old chicks

Every flock is sampled.

Laying hens: Rearing period

At the age of 16 weeks.

Laying hens: Production period

Every 15 weeks.

Laying hens: Before slaughter at farm

Every flock is sampled.

Laying hens: At slaughter

Sampling is distributed evenly throughout the year.

Type of specimen taken

Laying hens: Day-old chicks

Internal linings of delivery boxes

Laying hens: Rearing period

Socks/ boot swabs

Laying hens: Production period

Socks/ boot swabs in accordance with Regulation (EU) nr. 517/2011.

Laying hens: Before slaughter at farm

Socks/ boot swabs

Laying hens: At slaughter

Other: caeca

Methods of sampling (description of sampling techniques)

Laying hens: Day-old chicks

At the farm, 20 pieces (5 by 5 cm) of the inner linings of delivery boxes are taken of each batch. On voluntary basis, 20 living hen-chicks are brought to the laboratory for serological testing.

The samples have to reach an accredited laboratory within 48 hours of sampling.

Laying hens: Rearing period

Samples are taken in accordance with Regulation (EU) No. 517/2011.

Laying hens: Production period

Samples are taken in accordance with Regulation (EU) No. 517/2011.

Laying hens: Before slaughter at farm

Samples are taken in accordance with Regulation (EU) No. 517/2011.

Case definition

Laying hens: Day-old chicks

A sample is considered positive if *S. Enteritidis* or *S. Typhimurium* is isolated. A flock is considered positive as soon as one sample is positive.

Laying hens: Rearing period

A sample is considered positive if *S. Enteritidis* or *S. Typhimurium* is isolated. A flock is considered positive as soon as one sample is positive.

Laying hens: Production period

A sample is considered positive if *S. Enteritidis* or *S. Typhimurium* is isolated. A flock is considered positive as soon as one sample is positive.

Laying hens: Before slaughter at farm

A sample is considered positive if *Salmonella* is isolated. A flock is considered positive as soon as one sample is positive.

Diagnostic/analytical methods used

Laying hens: Day-old chicks

Bacteriological method: ISO 6579:2002 annex D

Laying hens: Rearing period

Bacteriological method: ISO 6579:2002 annex D

Laying hens: Production period

Bacteriological method: ISO 6579:2002 annex D in accordance with Regulation (EU) No. 517/2011.

Laying hens: Before slaughter at farm

Bacteriological method: ISO 6579:2002 annex D

Vaccination policy

Laying hens flocks

Vaccination against *Salmonella Enteritidis* is compulsory and vaccination against *Salmonella Typhimurium* is strongly recommended.

Other preventive measures than vaccination in place

Laying hens flocks

Minimal requirements for infrastructure, management, hygiene and bio-security issues are laid down under health qualification B*.

Control program/mechanisms

The control program/strategies in place

Laying hens flocks

The national control program for *Salmonella* in laying hens is based on Regulations (EC) Nos. 2160/2003, 1177/2006 and (EU) No. 517/2011.

Recent actions taken to control the zoonoses

The farmer has the possibility to perform an extended swabcontrol after cleaning and disinfection. This way the possible source of contamination may be found.

Measures in case of the positive findings or single cases

Laying hens flocks

- 1) Pasteurization of eggs before human consumption.
- 2) Cleaning and disinfection of housing after removal of the positive flock.
- 3) Swab sampling of housing before entering a new flock. If the result is positive for *Salmonella*, cleaning and disinfection has to be repeated.

Notification system in place

Zoonotic *Salmonella* is notifiable by the farmer and the laboratory since the first of January 2004.

Notification is done by phone, fax or electronic to the Federal Agency for the Safety of the Food Chain.

Results of the investigation

One batch of day-old chicks was positive for *Salmonella* Enteritidis.

During rearing, 445 flocks were sampled of which 4 were positive for *Salmonella* spp. (1 each for *S. Enteritidis*, *S. Agona*, *S. Livingstone* and *S. Senftenberg*).

During production, 764 flocks were sampled of which 36 were positive for *Salmonella* (15 for *S. Enteritidis* and 2 for *S. Typhimurium*).

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

The prevalence for all *Salmonella* serotypes has decreased compared to 2011. The prevalence of *Salmonella* Enteritidis and *Salmonella* Typhimurium remains the same.

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

The total number of reported human *Salmonella* isolates decreased in 2012 to 3.164 (3.231 in 2011) mainly due to a decrease in the number of *Salmonella* Typhimurium cases to 1.699 (2.030 in 2011). For the first time in several years there was a slight increase in the number of reported human *Salmonella* Enteritidis seen in 2012. At the level of the slaughterhouse and cutting plants, *Salmonella* Enteritidis is the main serotype found. However a decrease in *Salmonella* spp and in specific *S. Enteritidis* is also seen here. In Belgium, all layers are vaccinated against *Salmonella* Enteritidis. The period given protection by the vaccine may be too short to cover the stress during transport.

D. Salmonella spp. in bovine animals

Monitoring system

Sampling strategy

There was no official monitoring of cattle in 2012 in Belgium. Isolates were diagnostic samples sent to the NRL Salmonella, animal health, for serotyping.

Vaccination policy

In 2012, no vaccine was authorized for the vaccination of cattle against salmonellosis.

Results of the investigation

Results from the NRL Salmonella, AH indicate that the number of Salmonella isolates from cattle (n=47) has slightly increased as compared to 2011 (n=36). Most frequently found serotypes are Typhimurium (55.3%) and Dublin (23.4%). The proportion of S. Dublin isolates seems to diminish as compared to former years.

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

Data from the NRL Salmonella, AH show that in cattle, S. Dublin used to be the principal serotype between 2002 and 2010, but declined in 2010 and 2011 to the same low level as S. Typhimurium. In 2012 Typhimurium is clearly the most prevalent isolated serotype from cattle samples

E. Salmonella spp. in pigs

Monitoring system

Sampling strategy

Breeding herds

For diagnostic purposes and in the framework of research projects, pigs are sampled and isolates are sent to the NRL Salmonella, Animal Health for serotyping and resistance analysis.

Multiplying herds

For diagnostic purposes and in the framework of research projects, pigs are sampled and isolates are sent to the NRL Salmonella, AH for serotyping and resistance analysis.

Fattening herds

Every 4 months, 12 blood samples are taken for the serological surveillance of Salmonella on farms with at least 31 fattening pigs.

Samples are taken for bacteriological detection on farms that are considered risk herds for Salmonella.

For diagnostic purposes and in the framework of research projects, pigs are sampled and isolates are sent to the NRL Salmonella, AH for serotyping and resistance analysis.

Frequency of the sampling

Fattening herds at farm

Fattening herds with at least 31 fattening pigs are sampled every 4 months. Samples are taken for bacteriological detection on farms that are considered risk herds for Salmonella.

Type of specimen taken

Fattening herds at farm

On farm level, blood samples are taken for serological analysis. On risk herds, overshoes are used for bacteriological detection.

Methods of sampling (description of sampling techniques)

Fattening herds at farm

Depending on the capacity of the farm, 10 to 12 blood samples are taken of the fattening pigs. The blood samples are taken of all ages.

On risk herds, 4 samples are taken. Each sample consists of one pair of overshoes.

Case definition

Fattening herds at farm

Risk farms are identified as farms with a mean S/P ratio higher than 0,6 for 3 consecutive sampling rounds.

Diagnostic/analytical methods used

Fattening herds at farm

An indirect LPS--Salmonella ELISA is used for the detection of antibodies against certain Salmonella serogroups. The ISO 6576 : 2002 annex D method is used for bacteriological detection, the White-Kauffmann-LeMinor scheme for serotyping.

Vaccination policy

Breeding herds

No vaccine is authorized in Belgium for the vaccination of pigs against Salmonella.

Multiplying herds

No vaccine is authorized in Belgium for the vaccination of pigs against Salmonella.

Fattening herds

No vaccine is authorized in Belgium for the vaccination of pigs against Salmonella.

Control program/mechanisms

The control program/strategies in place

Fattening herds

Risk farms are identified as farms with a mean S/P ratio equal or higher than 0,6 for 3 consecutive sampling rounds. Following mandatory measures are applied on risk farms:

- 1) completion of a checklist on bio-security and other measures;
- 2) formulating and implementing a herd specific salmonella action plan, based on the result of the checklist;
- 3) bacteriological evaluation of the farm.

Measures in case of the positive findings or single cases

The measures are explained under control strategy in place.

Notification system in place

Zoonotic Salmonella is notifiable by operators and laboratories since the first of January 2004. Notification is done by phone, fax or electronic to the Federal Agency of the Safety of the Food Chain.

Results of the investigation

5.666 herds with fattening pigs were sampled in 2012. 1.998 herds had at least once a mean S/P ratio of more than 0,6. 106 herds were classified as Salmonella risk herds for the first time and 57 herds were classified as a Salmonella risk herd for a second or consecutive time.

In the framework of bacteriological detection of Salmonella on risk herds, 417 samples were taken on 95 farms. Salmonella could be isolated on 40% of the farms. De main serotypes found were Salmonella Typhimurium (26 herds) and S. O4,(5),12:i:- (18 herds).

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

Laboratory findings from the NRL Salmonella, AH concerning isolates that were sent in for serotyping in 2011 are available. The number of pig strains tested in 2011 was considerably lower as compared to 2010 (n=203 and 465, respectively). Mostly S. Typhimurium isolates were found (55.2%; 67.5% in 2010), but also S. Derby (6.9%; 7.3% in 2010). As for S. Typhimurium isolates from pigs, half are classic variant O5+. Almost all Salmonella pig strains typed as Group B were monophasic 4[5]:i:-.

During the last 12 years (2000-2011), S. Typhimurium absolutely is the most prevalent serotype among pig isolates, representing about 55% of pig Salmonella in 2011. Serotype Derby always is the second most important serotype with about 7% of the pig strains in 2010 and 2011.

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

The main serotypes found on Salmonella risk farms (fattening pigs), on carcasses and in pig meat is Salmonella Typhimurium and its monophasic variant. The increase of Salmonella positive carcasses and pig meat did not translate in a increase of the number of human cases.

F. Salmonella spp. in ducks - breeding flocks and meat production flocks

Monitoring system

Sampling strategy

Meat production flocks

On farms with a capacity of 5000 or more birds (Health Qualification B), all flocks are sampled within 3 weeks before slaughter.

Frequency of the sampling

Meat production flocks: Day-old chicks

Control 'at entry' is not mandatory.

Meat production flocks: Before slaughter at farm

All flocks are sampled within 3 weeks before slaughter.

Type of specimen taken

Meat production flocks: Before slaughter at farm

2 pair of overshoes are taken and pooled to one sample.

Methods of sampling (description of sampling techniques)

Meat production flocks: Before slaughter at farm

On farms with more than 5000 birds (Health Qualification B), all flocks are sampled, by the owner, within 3 weeks before slaughter. 2 pair of overshoes, pooled to 1 sample, are taken. The samples have to reach an accredited laboratory within 48 hours.

Case definition

Meat production flocks: Day-old chicks

A flock is positive if Salmonella spp. is found.

Meat production flocks: Before slaughter at farm

A flock is positive if Salmonella spp. is found.

Diagnostic/analytical methods used

Meat production flocks: Before slaughter at farm

The bacteriological method used is the ISO 6579:2002 annex D method.

Vaccination policy

Breeding flocks

There is no vaccination policy.

Meat production flocks

There is no vaccination policy.

Other preventive measures than vaccination in place

Meat production flocks

If the holding has a capacity of 5000 birds or more, Health Qualification B is mandatory, A is optional. Both include hygienic infrastructural and management obligations.

Measures in case of the positive findings or single cases

Samples are taken for monitoring purposes only. Flocks are slaughtered at the end of the day (logistic slaughter) if samples taken before slaughter are positive.

Notification system in place

A notification system for zoonotic Salmonella is in place since 1 January 2004. The notification can be done by e-mail, fax or phone.

Results of the investigation

All 5 meat production flocks sampled in 2012 were negative for Salmonella spp.

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

Salmonella spp are seldom found in flocks of meat ducks.

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

Seen the very low number of meat production flocks of ducks in Belgium, there is very little to no impact on human cases.

Additional information

In 2012, there were no breeding flocks of ducks in Belgium.

G. Salmonella spp. in geese - breeding flocks and meat production flocks

Monitoring system

Methods of sampling (description of sampling techniques)

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

Additional information

In 2012 there were no breeding and meat production flocks of geese in Belgium.

H. Salmonella spp. in turkey - breeding flocks and meat production flocks

Monitoring system

Sampling strategy

Breeding flocks (separate elite, grand parent and parent flocks when necessary)

There are no professional breeding turkey flocks in Belgium.

Meat production flocks

All flocks are sampled within three weeks of slaughter.

Frequency of the sampling

Meat production flocks: Before slaughter at farm

Every flock is sampled

Type of specimen taken

Meat production flocks: Before slaughter at farm

Socks/ boot swabs

Methods of sampling (description of sampling techniques)

Meat production flocks: Before slaughter at farm

All flocks are sampled, by the owner, within 3 weeks before slaughter conform Regulation (EC) n° 584/2008.

Case definition

A flock is positive if Salmonella is found.

Monitoring system

Case definition

Meat production flocks: Before slaughter at farm

A flock is positive if Salmonella spp. is found.

Diagnostic/analytical methods used

Meat production flocks: Day-old chicks

Bacteriological method: ISO 6579:2002 annex D.

Meat production flocks: Before slaughter at farm

Bacteriological method: ISO 6579:2002 annex D.

Vaccination policy

Meat production flocks

There is no vaccination policy for meat production flocks.

Other preventive measures than vaccination in place

Meat production flocks

Health Qualification B* includes infrastructural, management hygiene and bio-security obligations.

Measures in case of the positive findings or single cases

Following measures are taken when a flock is positive for Salmonella spp for the first time:

- 1° the flock is at the end of the production cycle slaughtered at the end of the day (logistic slaughter);
- 2° there is an obligation to clean and disinfect the house;

3° a hygienogram is performed after disinfection and after the house has dried up;

4° a swab control on the presence of Salmonella is performed before restocking the house;

If the following flock is positive for the same serotype of Salmonella, the same measures are taken and the disinfection must be performed by an external company.

When the same serotype of Salmonella is found at three consecutive times, besides the above mentioned measures, the farm must be evaluated on biosecurity and hygiene by the farm veterinarian and necessary measures must be taken. An epidemiological investigation and/or tests are performed to find the source of the infection.

It is at all times prohibited to treat for Salmonella with antibiotics.

Notification system in place

Zoonotic Salmonella is notifiable since 1 January 2004. Notification is done by phone, fax or e-mail.

Results of the investigation

There are no turkey breeding flocks in Belgium.

163 meat production flocks were tested in 2012. There was one flock positive for S. O4,12:-:-.

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

There is a very low incidence of Salmonella in turkey meat production flocks in Belgium.

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

Seen the limited number of meat turkey flocks slaughtered in Belgium and the low incidence of Salmonella in these flocks, there is little to no relevance of the findings in these flocks to human cases.

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	557	DGZ/ARSIA	Census	Official and industry sampling	environmental sample > boot swabs	Domestic	yes	Flock	557	14	1
Gallus gallus (fowl) - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes ¹⁾	110	DGZ/ARSIA	Census	Industry sampling	environmental sample > delivery box liner		no	Flock	110	0	
Gallus gallus (fowl) - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes	317	DGZ/ARSIA	Census	Official and industry sampling	environmental sample > boot swabs	Domestic	no	Flock	317	4	
	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 1,3,19:-:-	S. 6,8;z10:-	S. Agona	S. Cerro	S. Idikan
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes								1	1	2	1
Gallus gallus (fowl) - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes ¹⁾											
Gallus gallus (fowl) - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes							1		2		

Table Salmonella in breeding flocks of Gallus gallus

	S. Kottbus	S. Livingstone	S. Mbandaka	S. Minnesota	S. Paratyphi B	S. Senftenberg
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes	2	1	2	1	1	1
Gallus gallus (fowl) - breeding flocks, unspecified - day-old chicks - at farm - Control and eradication programmes ¹⁾						
Gallus gallus (fowl) - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes				1		

Comments:

¹⁾ A flock equals a group of day-old chicks delivered on 1 truck and from a single hatchery.

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	S. 1,4,[5],12:i:-
Guinea fowl - at farm - Monitoring	DGZ/ARSIA	Census	Industry sampling	environmental sample > boot swabs	Domestic	Flock	17	0			
	Salmonella spp., unspecified										
Guinea fowl - at farm - Monitoring											

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:-
Pigs - fattening pigs - at farm - Monitoring	DGZ/ARSIA	Selective sampling	Industry sampling	environmental sample > boot swabs	Domestic	Holding	95	57		26	
	Salmonella spp., unspecified	S. 4,12:i:-	S. 4,5,12:i:-	S. 4,5:i:-	S. 4:i:-	S. Anatum	S. Derby	S. Gloucester	S. Infantis	S. Livingstone	S. Rideau
Pigs - fattening pigs - at farm - Monitoring	1	11	8	1	3	2	3	1	1	3	1
	S. Rissen										
Pigs - fattening pigs - at farm - Monitoring	2										

Footnote:

The analyses on the presence of the O1-antigen was not performed.

On 6 farms with fattening pigs, 2 different serotypes were found:

- * 2 farms with S. O4,5,12:i:- and S. O4,12:i:-;
- * 1 farm with S. O4,12:i:- and S. Rideau;
- * 1 farm with S. Typhimurium and S. Livingstone;
- * 1 farm with S. Typhimurium and S. O4,12:i:-;
- * 1 farm with S. typhimurium and S. O4,5,12:i:-.

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 - day-old chicks - Control and eradication programmes ¹⁾	247	DGZ/ARSIA/Lavetan	Census	Industry sampling	environmental sample > delivery box liner		no	Flock	247	1	1
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes	315	DGZ/ARSIA/Lavetan	Census	Industry sampling	environmental sample > boot swabs	Domestic	no	Flock	315	3	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	764	DGZ/ARSIA/FASFC/Lavetan	Census	Official and industry sampling	environmental sample > boot swabs and dust	Domestic	yes	Flock	764	36	15
Gallus gallus (fowl) - broilers - day-old chicks - Control and eradication programmes ²⁾	5593	DGZ/ARSIA/Lavetan	Census	Industry sampling	environmental sample > delivery box liner	Domestic	no	Flock	5593	26	11
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	8739	FASFC	Objective sampling	Official sampling	environmental sample > boot swabs	Domestic	yes	Flock	82	3	1
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	8739	DGZ/ARSIA/Lavetan	Census	Industry sampling	environmental sample > boot swabs	Domestic	yes	Flock	8734	300	17
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	8739	DGZ/ARSIA/FASFC/Lavetan	Census	Official and industry sampling	environmental sample > boot swabs	Domestic	yes	Flock	8739	301	17
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes	163	DGZ/ARSIA/FASFC	Census	Official and industry sampling	environmental sample > boot swabs	Domestic	yes	Flock	163	1	
Ducks - meat production flocks	5	DGZ/ARSIA/Lavetan	Convenience sampling	Industry sampling	environmental sample > boot swabs	Domestic	no	Flock	5	0	

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	Not typeable	Other serovars	S. 13,23:i:-	S. 3,19:-:-	S. 4,12:-:-	S. 4,5:i:-	S. 6,7:d:-	S. 6,7:z29
Gallus gallus (fowl) - laying hens - day-old chicks - Control and eradication programmes ¹⁾											
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	2			1	1				1	1	
Gallus gallus (fowl) - broilers - day-old chicks - Control and eradication programmes ²⁾	2		3								
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	30	4		3	1	1	3	1			2
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	30	4		3	1	1	3	1			2
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes								1			
Ducks - meat production flocks											
	S. Agona	S. Anatum	S. Braenderup	S. Brandenburg	S. Cerro	S. Dublin	S. Give	S. Hadar	S. Havana	S. Idikan	S. Infantis
Gallus gallus (fowl) - laying hens - day-old chicks - Control and eradication programmes ¹⁾											

Table Salmonella in other poultry

	S. Agona	S. Anatum	S. Braenderup	S. Brandenburg	S. Cerro	S. Dublin	S. Give	S. Hadar	S. Havana	S. Idikan	S. Infantis
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes	1										
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	1		2							1	2
Gallus gallus (fowl) - broilers - day-old chicks - Control and eradication programmes ²⁾											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	7	4		1	2	1	2	1	1	1	7
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	7	4		1	2	1	2	1	1	1	7
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes											
Ducks - meat production flocks											

	S. Jerusalem	S. Kentucky	S. Kottbus	S. Lexington	S. Livingstone	S. Llandoff	S. Mbandaka	S. Minnesota	S. Montevideo	S. Newport	S. Ouakam
Gallus gallus (fowl) - laying hens - day-old chicks - Control and eradication programmes ¹⁾											
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes					1						

Table Salmonella in other poultry

	S. Jerusalem	S. Kentucky	S. Kottbus	S. Lexington	S. Livingstone	S. Llandoff	S. Mbandaka	S. Minnesota	S. Montevideo	S. Newport	S. Ouakam
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes					4		1				1
Gallus gallus (fowl) - broilers - day-old chicks - Control and eradication programmes ²⁾			1					9			
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	1	3	2	6	14	1	7	64	2	1	1
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	1	3	2	6	14	1	7	64	2	1	1
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes											
Ducks - meat production flocks											

	S. Panama	S. Paratyphi B	S. Rissen	S. Saintpaul	S. Senftenberg	S. Tennessee	S. Umbilo	S. Yoruba	S. group O:4
Gallus gallus (fowl) - laying hens - day-old chicks - Control and eradication programmes ¹⁾									
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes					1				
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes		1			2	2			

Table Salmonella in other poultry

	S. Panama	S. Paratyphi B	S. Rissen	S. Saintpaul	S. Senftenberg	S. Tennessee	S. Umbilo	S. Yoruba	S. group O:4
Gallus gallus (fowl) - broilers - day-old chicks - Control and eradication programmes ²⁾									
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes		1			1				
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	1	77	21	1	5	2	1	1	3
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	1	77	21	1	6	2	1	1	3
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes									
Ducks - meat production flocks									

Comments:

¹⁾ A flock = a group of birds delivered on 1 truck and from 1 hatchery.

²⁾ A flock = a group of birds delivered on 1 truck and from 1 hatchery.

Footnote:

All categories:

* The analyses on the presence of the O1-antigen was not performed.

In the category layers production:

* 36 flocks were positive for Salmonella of which 2 flocks were positive for 2 serotypes (S. Livingstone and S. Ouakam - S. Enteritidis and a not-typable strain);

* the presence of Salmonella Enteritidis and Salmonella Typhimurium could not be confirmed in respectively 4 and 1 flocks. These flocks were not considered as positive flocks and are not included in the table.

In the category broilers - before slaughter:

* three flocks were positive for 2 serotypes:

- 1 flock was positive for S. Typhimurium and for its monophasic variant O4,12:i:-;

- 1 flock was positive for S. Typhimurium and S. Paratyphi B (var. Java);

Table Salmonella in other poultry

- 1 flock was positive for S. Paratyphi B (var. Java) and S. O4,12:-:2.
- * Of the 77 flocks positive for S. Paratyphi B, 70 flocks were positive for the variant Java, 3 for S. Paratyphi B and 4 for both.
- * for 2 flocks Salmonella was found in samples taken by the food business operator and in samples taken by the competent authority.

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 - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	91			
Compound feedingstuffs for fish - final product - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	5			
Compound feedingstuffs for horses - final product - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	27	1		
Compound feedingstuffs for pigs - final product - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	89	1		
Compound feedingstuffs for poultry (non specified) - final product - in total - Surveillance ¹⁾	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	16	1		
Compound feedingstuffs for poultry - breeders - final product - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	115			
Compound feedingstuffs for poultry - broilers - final product - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	52	3		
Compound feedingstuffs for poultry - laying hens - final product - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	38	1		
Compound feedingstuffs for poultry - pigeons - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	3			
Compound feedingstuffs for rabbits - final product - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	10			
Compound feedingstuffs for sheep - final product - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	18			

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 turkeys - final product - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	13			
	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,12:i:-	S. 4,12:i:-	S. Brandenburg	S. Derby	S. Kottbus	S. Livingstone	S. Mbandaka	S. Minnesota	S. Ohio
Compound feedingstuffs for cattle - final product - in total - Surveillance											
Compound feedingstuffs for fish - final product - in total - Surveillance											
Compound feedingstuffs for horses - final product - in total - Surveillance			1								
Compound feedingstuffs for pigs - final product - in total - Surveillance											
Compound feedingstuffs for poultry (non specified) - final product - in total - Surveillance ¹⁾									1		
Compound feedingstuffs for poultry - breeders - final product - in total - Surveillance											
Compound feedingstuffs for poultry - broilers - final product - in total - Surveillance							1	1		1	
Compound feedingstuffs for poultry - laying hens - final product - in total - Surveillance											
Compound feedingstuffs for poultry - pigeons - in total - Surveillance											

Table Salmonella in compound feedingstuffs

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,12:-:-	S. 4,12:i:-	S. Brandenburg	S. Derby	S. Kottbus	S. Livingstone	S. Mbandaka	S. Minnesota	S. Ohio
Compound feedingstuffs for rabbits - final product - in total - Surveillance											
Compound feedingstuffs for sheep - final product - in total - Surveillance											
Compound feedingstuffs for turkeys - final product - in total - Surveillance											

	S. Ouakam	S. Paratyphi B	S. Senftenberg
Compound feedingstuffs for cattle - final product - in total - Surveillance			
Compound feedingstuffs for fish - final product - in total - Surveillance			
Compound feedingstuffs for horses - final product - in total - Surveillance			
Compound feedingstuffs for pigs - final product - in total - Surveillance	1		
Compound feedingstuffs for poultry (non specified) - final product - in total - Surveillance ¹⁾			
Compound feedingstuffs for poultry - breeders - final product - in total - Surveillance			
Compound feedingstuffs for poultry - broilers - final product - in total - Surveillance			

Table Salmonella in compound feedingstuffs

	S. Ouakam	S. Paratyphi B	S. Senftenberg
Compound feedingstuffs for poultry - laying hens - final product - in total - Surveillance			1
Compound feedingstuffs for poultry - pigeons - in total - Surveillance			
Compound feedingstuffs for rabbits - final product - in total - Surveillance			
Compound feedingstuffs for sheep - final product - in total - Surveillance			
Compound feedingstuffs for turkeys - final product - in total - Surveillance			

Comments:

¹⁾ samples for goose (1), pheasant (7), ducks (5), ostrich (2) and not specified (1)

Table Salmonella in feed material of animal origin

	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 land animal origin - animal fat - in total - Surveillance ¹⁾	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	37	1		1
Feed material of land animal origin - at feed mill - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	6			
Feed material of land animal origin - blood meal - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	1			
Feed material of land animal origin - blood products - at feed mill - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	5			
Feed material of land animal origin - blood products - in total - Surveillance	IEC401	Objective sampling	Official sampling	feed sample	Imported from outside EU	Batch	25g	1			
Feed material of land animal origin - bone meal - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	1			
Feed material of land animal origin - egg powder - at feed mill - Surveillance	IEC401	Objective sampling	Official sampling	feed sample	Imported from outside EU	Batch	25g	20			
Feed material of land animal origin - meat and bone meal - in total - Surveillance ²⁾	IEC404	Objective sampling	Official sampling	feed sample	Intra EU trade	Batch	25g	88	7		
Feed material of land animal origin - meat and bone meal - in total - Surveillance	IEC402	Objective sampling	Official sampling	feed sample	Imported from outside EU	Batch	25g	8			
Feed material of land animal origin - meat and bone meal - in total - Surveillance ³⁾	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	19	7	1	
Feed material of land animal origin - poultry offal meal - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	9			
Feed material of marine animal origin - fish meal - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	10			

Table Salmonella in feed material of animal origin

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,5:i:-	S. 6,7:-:-	S. 6,7:z29	S. Alachua	S. Carno	S. Cerro	S. Idikan	S. Infantis	S. Isangi
Feed material of land animal origin - animal fat - in total - Surveillance ¹⁾											
Feed material of land animal origin - at feed mill - Surveillance											
Feed material of land animal origin - blood meal - in total - Surveillance											
Feed material of land animal origin - blood products - at feed mill - Surveillance											
Feed material of land animal origin - blood products - in total - Surveillance											
Feed material of land animal origin - bone meal - in total - Surveillance											
Feed material of land animal origin - egg powder - at feed mill - Surveillance											
Feed material of land animal origin - meat and bone meal - in total - Surveillance ²⁾			1			1	1	1		1	
Feed material of land animal origin - meat and bone meal - in total - Surveillance											
Feed material of land animal origin - meat and bone meal - in total - Surveillance ³⁾				1	1				1		1
Feed material of land animal origin - poultry offal meal - in total - Surveillance											
Feed material of marine animal origin - fish meal - in total - Surveillance											

Table Salmonella in feed material of animal origin

	S. Livingstone	S. Mbandaka	S. Montevideo	S. Ohio	S. Rissen	S. Soerenga	Salmonella spp.
Feed material of land animal origin - animal fat - in total - Surveillance ¹⁾							
Feed material of land animal origin - at feed mill - Surveillance							
Feed material of land animal origin - blood meal - in total - Surveillance							
Feed material of land animal origin - blood products - at feed mill - Surveillance							
Feed material of land animal origin - blood products - in total - Surveillance							
Feed material of land animal origin - bone meal - in total - Surveillance							
Feed material of land animal origin - egg powder - at feed mill - Surveillance							
Feed material of land animal origin - meat and bone meal - in total - Surveillance ²⁾	1	1	1				1
Feed material of land animal origin - meat and bone meal - in total - Surveillance							
Feed material of land animal origin - meat and bone meal - in total - Surveillance ³⁾	2		1	1	1	1	2
Feed material of land animal origin - poultry offal meal - in total - Surveillance							
Feed material of marine animal origin - fish meal - in total - Surveillance							

Table Salmonella in feed material of animal origin

Comments:

- ¹⁾ S.Typhimurium 05+
- ²⁾ a) One sample with two serotypes S.Carno and S.04,5:i:- b) One sample with three serotypes S.Mbandaka, S.Livingstone and S.Cerro Salmonella spp = 1x 06,7:M,T
- ³⁾ a) one sample with two serotypes S.06,7:-:- and S.06,7:z29 b) one sample with two serotypes S.Livingstone and S.Isangi c) One sample with three serotypes S.Rissen, S.Idikan and S.Ohio d) One sample with three serotypes S.Livingstone, S.Enteritidis and SERUM OMD (Salmonella spp) Salmonella spp= 1x S.4:z:1,7 and 1x Serum OMD

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 - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	5			
Feed material of cereal grain origin - maize derived - in total - Surveillance	IEC207	Objective sampling	Official sampling	feed sample	Imported from outside EU	Batch	25g	1			
Feed material of cereal grain origin - maize derived - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	4			
Feed material of cereal grain origin - oat derived - at feed mill - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	3			
Feed material of cereal grain origin - other cereal grain derived - in total - Surveillance ¹⁾	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	28			
Feed material of cereal grain origin - other cereal grain derived - in total - Surveillance ²⁾	IEC207	Objective sampling	Official sampling	feed sample	Imported from outside EU	Batch	25g	14			
Feed material of cereal grain origin - wheat derived - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	13			
Feed material of oil seed or fruit origin - groundnut derived - in total - Surveillance	IEC207	Objective sampling	Official sampling	feed sample	Imported from outside EU	Batch	25g	1			
Feed material of oil seed or fruit origin - linseed derived - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	7	1		
Feed material of oil seed or fruit origin - other oil seeds derived - in total - Surveillance	IEC207	Objective sampling	Official sampling	feed sample	Imported from outside EU	Batch	25g	3			
Feed material of oil seed or fruit origin - rape seed derived - in total - Surveillance	IEC207	Objective sampling	Official sampling	feed sample	Imported from outside EU	Batch	25g	6			
Feed material of oil seed or fruit origin - rape seed derived - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	7	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 - soya (bean) derived - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	12			
Feed material of oil seed or fruit origin - soya (bean) derived - in total - Surveillance	IEC207	Objective sampling	Official sampling	feed sample	Imported from outside EU	Batch	25g	3			
Feed material of oil seed or fruit origin - sunflower seed derived - in total - Surveillance	IEC207	Objective sampling	Official sampling	feed sample	Imported from outside EU	Batch	25g	2			
Feed material of oil seed or fruit origin - sunflower seed derived - in total - Surveillance	TRA055	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	1			
Pet food - dog snacks (pig ears, chewing bones) - in total - Surveillance	IEC401	Objective sampling	Official sampling	feed sample	Imported from outside EU	Batch	25g	24	1		
Pet food - final product - in total - Surveillance ³⁾	TRA082	Objective sampling	Official sampling	feed sample	Domestic	Batch	25g	35	5	1	
	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,12:i:-	S. 4,12:i:-	S. Brandenburg	S. Derby	S. Livingstone	S. Mbandaka	S. Ohio	S. Paratyphi B	S. Tennessee
Feed material of cereal grain origin - barley derived - in total - Surveillance											
Feed material of cereal grain origin - maize derived - in total - Surveillance											
Feed material of cereal grain origin - maize derived - in total - Surveillance											
Feed material of cereal grain origin - oat derived - at feed mill - Surveillance											

Table Salmonella in other feed matter

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,12:i:-	S. 4,12:i:-	S. Brandenburg	S. Derby	S. Livingstone	S. Mbandaka	S. Ohio	S. Paratyphi B	S. Tennessee
Feed material of cereal grain origin - other cereal grain derived - in total - Surveillance ¹⁾											
Feed material of cereal grain origin - other cereal grain derived - in total - Surveillance ²⁾											
Feed material of cereal grain origin - wheat derived - in total - Surveillance											
Feed material of oil seed or fruit origin - groundnut derived - in total - Surveillance											
Feed material of oil seed or fruit origin - linseed derived - in total - Surveillance							1				
Feed material of oil seed or fruit origin - other oil seeds derived - in total - Surveillance											
Feed material of oil seed or fruit origin - rape seed derived - in total - Surveillance											
Feed material of oil seed or fruit origin - rape seed derived - in total - Surveillance											1
Feed material of oil seed or fruit origin - soya (bean) derived - in total - Surveillance											
Feed material of oil seed or fruit origin - soya (bean) derived - in total - Surveillance											
Feed material of oil seed or fruit origin - sunflower seed derived - in total - Surveillance											
Feed material of oil seed or fruit origin - sunflower seed derived - in total - Surveillance											

Table Salmonella in other feed matter

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. 4,12:-:-	S. 4,12:i:-	S. Brandenburg	S. Derby	S. Livingstone	S. Mbandaka	S. Ohio	S. Paratyphi B	S. Tennessee
Pet food - dog snacks (pig ears, chewing bones) - in total - Surveillance									1		
Pet food - final product - in total - Surveillance ³⁾			1	1	1	1		1		2	

Comments:

¹⁾ not specified (25), malt (1), spelt (2)

²⁾ not specified (12), millet (2)

³⁾ One sample with 2 serotypes: S.Paratyphi B var. Java and S.O4,12:-:- One sample with 3 serotypes: S.Paratyphi B var. Java and S.Derby and S.Brandenburg

2.1.5 Antimicrobial resistance in Salmonella isolates

A. Antimicrobial resistance in Salmonella in cattle

Sampling strategy used in monitoring

Type of specimen taken

Laboratory findings of the NRL Salmonella, animal health.

Methods of sampling (description of sampling techniques)

Diagnostic samples sent to NRL.

See: "Antimicrobial resistance of Salmonella spp. in animals - All animals" for more details.

Control program/mechanisms

The control program/strategies in place

There was no monitoring programme for Salmonella in cattle in 2011.

Results of the investigation

A total of 18 Salmonella isolates were tested for their susceptibility. Eight were S. Dublin, six S. Typhimurium, two S. Enteritidis and one each of S. Anatum and S. Rissen.

Six strains were fully susceptible, which represents 33,3%. Most resistance was found against sulfonamides (50,0%), ampicillin (44,4%), nalidixic acid (38,9%), streptomycin and tetracycline (both 33,3%), but also against chloramphenicol (16,7%), florphenicol (11,1%) and ceftiofur (11.1%).

B. Antimicrobial resistance in Salmonella in pigs

Sampling strategy used in monitoring

Type of specimen taken

Laboratory findings of the NRL Salmonella, animal health.

Methods of sampling (description of sampling techniques)

Diagnostic samples sent to the NRL Salmonella, animal health.

See: "Antimicrobial resistance of Salmonella spp. in animals - All animals" for more details.

Results of the investigation

A total of 103 Salmonella isolates from pigs were tested for their susceptibility. Most of the strain tested were S. Typhimurium (n=68), S. Derby (n=8) and S. Livingstone (n=3).

18.4 % of strains were fully susceptible. Most resistance was found against sulfonamides (68.9%), ampicillin (64.1%), tetracycline (62.1%) and streptomycin (55.3%).

C. Antimicrobial resistance in Salmonella in poultry

Sampling strategy used in monitoring

Type of specimen taken

Laboratory findings of the NRL Salmonella, animal health.

Methods of sampling (description of sampling techniques)

Analysis of diagnostic samples sent to the NRL Salmonella, animal health.

See: "Antimicrobial resistance of Salmonella spp. in animals - All animals" for more details.

Results of the investigation

Three hundred fifty-six poultry Salmonella isolates were tested for their susceptibility. Of these, 56 were S. Enteritidis, 93 Paratyphi B, 42 S. Typhimurium and 30 S. Minnesota.

Hundred ninety-six strains were fully susceptible, which represents 55.1%. Most resistance was found against ampicillin (36.8%), sulfonamides (28.4%), nalidixic acid (27.8%), trimetoprim-sulfonamides (22.5%), streptomycin (20.5%) and tetracyclines (17.1%).

D. Antimicrobial resistance in Salmonella in foodstuff derived from pigs

Sampling strategy used in monitoring

Procedures for the selection of isolates for antimicrobial testing

All strains isolated during the zoonosis monitoring program were sent to the Institute of Public Health for serotyping and determination of antimicrobial resistance.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Minimum Inhibitory Concentrations (MIC) were determined by the broth dilution method using Sensititre EUMVS2 panel, as recommended by the EURL antibiotic resistance. The antimicrobials reported are listed in the table below, as well as the breakpoints used for the interpretation of the results. Interpretation was according to CLSI and using epidemiological cut-off values from EUCAST. Quality control was performed by using an *Escherichia coli* ATCC 25922 strain.

Antimicrobial Breakpoints

(µg / ml)

Ampicillin 4

Cefotaxim 0.5

Ceftazidim 2

Chloramphenicol 16

Ciprofloxacin 0.06

Colistin 2

Florfenicol 16

Gentamycin 2

Kanamycin 8

Nalidixic acid 16

Streptomycin 32

Sulfamethoxazole 256

Tetracycline 8

Trimethoprim 2

Results of the investigation

In total 157 *Salmonella* strains from pork were tested for their antimicrobial susceptibility.

This includes strains from carcasses and cut meats. The resistance to cefotaxim, ceftazidim, ciprofloxacin, gentamicin, kanamycin and nalidixic acid was low (< 2%) however, high resistance to ampicillin (53%) streptomycin (48%) sulphamethoxazole (54%) and tetracycline (41%) was observed. This represents an increase between 13-15% for the three latter compared to 2011. The percentage of strains sensible to all antibiotics were 49% which represents a decrease of 5% compared to last year. Of note, the increase of resistance of isolates to more than four antibiotics reaching values up to 21% which is an increase of 6% compared to 2011.

Salmonella Typhimurium was the predominant isolated serotype (67%), similar to last year. Resistance to ampicillin (73%) streptomycin (65%) sulphamethoxazole (69%) and tetracycline (52%) was observed.

Twenty nine percent of all isolates were multidrug resistant. Of note the strong decrease of isolates sensible to all antibiotics, reaching a value of only 14% compared to 38% in 2011. This is of particular concern.

E. Antimicrobial resistance in Salmonella in foodstuff derived from poultry

Sampling strategy used in monitoring

Procedures for the selection of isolates for antimicrobial testing

During 2012, 286 strains of *Salmonella enterica* isolated during the zoonosis monitoring program were sent to the Scientific Institute of Public Health for serotyping and determination of antimicrobial resistance. Different food matrices were sampled, mainly poultry (carcasses from broilers and spent hens, chicken parts and meat preparations) and pork (carcasses and cut meats). Other matrices where *Salmonella* was isolated were ready-to-eat meals, meat, meat preparations, frog's legs, pudding, liquid egg product, ham and dry sausage. Since 2011, the AMR was performed on the most prevalent ten serotypes.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Minimum Inhibitory Concentrations (MIC) were determined by the broth dilution method using Sensititre EUMVS2 panel, as recommended by the EURL antibiotic resistance. The antimicrobials reported are listed in the table below, as well as the breakpoints used for the interpretation of the results. Interpretation was according to CLSI and using epidemiological cut-off values from EUCAST. Quality control was performed by using an *Escherichia coli* ATCC 25922 strain.

Antimicrobial Breakpoints

(µg / ml)

Ampicillin4

Cefotaxim0.5

Ceftazidim2

Chloramphenicol16

Ciprofloxacin0.06

Colistin2

Florfenicol16

Gentamycin2

Kanamycin8

Nalidixic acid16

Streptomycin32

Sulfamethoxazol256

Tetracycline8

Trimethoprim2

Results of the investigation

Antimicrobial resistance in strains isolated from poultry meat

In 2012, 91 *Salmonella* isolates from poultry meats were tested for their antimicrobial susceptibility. A total of 43% were sensitive to all tested antimicrobials, which show a stable trend compared to 2011 and an increase of 5% compared to 2010. Some variations have been observed this year. While resistance to ampicillin, florfenicol and gentamicin, remained stable as 2011, resistance to streptomycin, sulfamethoxazole and tetracycline decreased. A slight increase in cephalosporins; cefotaxin and ceftazidim, resistance was observed compared to last year (3.0% vs. 2%). This could indicate a slight but steady increase of ESBL producing isolates, which are of particular interest. Of note, the remarkable increase of resistance found for ciprofloxacin (22% vs. 14%) and colistin (26% vs. 11%) compared to 2011. The resistant strains to ciprofloxacin were isolated mainly from broilers and poultry meat products and belonged to the serotype Paratyphi. The resistance strains to colistin were isolated mainly from spent hens and belonged to the serotype Enteritidis in line with the results reported in 2011.

Resistance varied depending on the matrix from which *Salmonella* was isolated. High resistance were observed in isolates from poultry meat followed by those from broiler meat. Only 4.5% of the isolates from poultry meat were sensible to all antibiotics tested and 22.7 % were resistant to four or more different classes of antibiotics. Fifty five per cent of isolates from broiler meat were sensitive to all antibiotics tested however, 31% were resistant to four or more antibiotics. In contrast, none of the isolates recovered from spent hens, showed multidrug resistance and 54% and 45% were sensible to all and all but one antibiotics tested, respectively.

In total, 44 *Salmonella* Enteritidis were analysed for their antibiotic susceptibility. This serotype showed very low level of resistance. All but three isolates were sensitive to all antibiotics tested except for colistin, for which 50% of the isolates showed resistance. This value has increased in 18% compared to 2011.

Resistance to colistin continues increasing.

In total, 21 *Salmonella* Paratyphi B isolates from poultry-derived food products were tested for their antibiotic susceptibility. The resistance of this serotype continue decreasing compared to previous years. Resistance to ampicillin was 51% vs 75% (2011), trimethoprim 67% vs. 89% (2011) and streptomycin 9.7 % compared to 64% in 2011. The degree of multiresistance, defined as resistance to more than 4 antibiotics, observed was 28.6%.

F. Antimicrobial resistance of *Salmonella* spp. in food

Sampling strategy used in monitoring

Frequency of the sampling

During 2012, 286 strains of *Salmonella enterica* isolated during the zoonosis monitoring program were sent to the Scientific Institute of Public Health for serotyping and determination of antimicrobial resistance. Different food matrices were sampled, mainly poultry (carcasses from broilers and spent hens, chicken parts and meat preparations) and pork (carcasses and cut meats). Other matrices where *Salmonella* was isolated were ready-to-eat meals, meat, meat preparations, frog's legs, pudding, liquid egg product, ham and dry sausage. Since 2011, the AMR was performed on the most prevalent ten serotypes.

Laboratory methodology used for identification of the microbial isolates

Minimum Inhibitory Concentrations (MIC) were determined by the broth dilution method using Sensititre, as recommended by the EURL antibiotic resistance. The antimicrobials reported are listed in the table below, as well as the breakpoints used for the interpretation of the results. Interpretation was according to CLSI and using epidemiological cut-off values from EUCAST. Quality control was performed by using an *Escherichia coli* ATCC 25922 strain.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

The antimicrobials tested are listed in the following table.

Antimicrobial
Ampicillin
Cefotaxim
Ceftazidim
Streptomycin
Kanamycin
Tetracycline
Sulfamethoxazole
Trimethoprim
Nalidixic acid
Ciprofloxacin
Chloramphenicol
Florfenicol
Gentamicin

Cut-off values used in testing

Minimum Inhibitory Concentrations (MIC) were determined by the use of broth microdilution (Sensititre EUMVS2 panel) according to the NCCLS standards.

The antimicrobials tested and the breakpoints used are listed in the following table.

Antimicrobial	Breakpoints
(µg / ml)	
Ampicillin	4
Cefotaxim	0.5
Ceftazidim	2
Chloramphenicol	16

Ciprofloxacin 0.06
Colistin 2
Florfenicol 16
Gentamycin 2
Kanamycin 8
Nalidixic acid 16
Streptomycin 32
Sulfamethoxazole 256
Tetracycline 8
Trimethoprim 2

Results of the investigation

The level of resistance of *Salmonella* isolates from poultry and pork differs. In pork resistance to streptomycin, sulfamethoxazole and tetracycline was 8.5, 4.1 and 12.3-fold higher, respectively compared to poultry. Serotype distribution varies depending on the matrix. *Salmonella* Typhimurium was the most prevalent serotype on pork (105 out of 157, 67%). On poultry meat products *S. Paratyphi* (11 out of 22, 50%) was the predominant serotype followed by *S. Enteritidis* (6 out of 22, 27.3%), *S. Typhimurium* (4 out of 22, 18 %) and *S. Derby* (1 out of 22, 4.5%). However on spent hens *S. Enteritidis* was the most predominant one (31 out of 35, 88.6%) followed by *S. Typhimurium* (3 out of 35, 8.6 %) and *S. Derby* (1 out of 35, 2.8%).

On broilers, *Salmonella* isolates were distributed in a diversity of serotypes. Two serotypes were equally predominant, *S. Paratyphi* and *S. Infantis* (10 out of 34, 29.4 %) followed by *S. Enteritidis* (7 out of 34, 20.6 %), *S. Agona* (6 out of 34, 17.6 %) and lastly *S. Typhimurium* (1 out of 34, 2.9 %)

Antimicrobial tested Poultry Pork

(n=91)(n=157)

Ampicillin 2352
Cefotaxim 3.32
Ceftazidim 3.310.2
Chloramphenicol 1.11.3
Ciprofloxacin 224.5
Colistin 263.8
Florfenicol 00
Gentamicin 00
Kanamycin 1.12
Nalidixic acid 221.3
Streptomycin 5.547.8
Sulfamethoxazole 13.254.1
Tetracycline 3.340.8
Trimethoprim 24.225.5

Antimicrobial susceptibility testing of *Salmonella* spp. isolated from different food matrices: percentage of resistant strains

Antimicrobial resistance in strains isolated from poultry meat

In 2012, 91 *Salmonella* isolates from poultry meats were tested for their antimicrobial susceptibility. A total of 43% were sensitive to all tested antimicrobials, which show a stable trend compared to 2011 and an increase of 5% compared to 2010. Some variations have been observed this year. While resistance to ampicillin, florfenicol and gentamicin, remained stable as 2011, resistance to streptomycin, sulfamethoxazole and tetracycline decreased. A slight increase in cephalosporins; cefotaxim and ceftazidim, resistance was observed compared to last year (3.0% vs. 2%). This could indicate a slight but

steady increase of ESBL producing isolates, which are of particular interest. Of note, the remarkable increase of resistance found for ciprofloxacin (22% vs. 14%) and colistin (26% vs. 11%) compared to 2011. The resistant strains to ciprofloxacin were isolated mainly from broilers and poultry meat products and belonged to the serotype Paratyphi. The resistance strains to colistin were isolated mainly from spent hens and belonged to the serotype Enteritidis in line with the results reported in 2011. Resistance varied depending on the matrix from which *Salmonella* was isolated. High resistance were observed in isolates from poultry meat followed by those from broiler meat. Only 4.5% of the isolates from poultry meat were sensitive to all antibiotics tested and 22.7 % were resistant to four or more different classes of antibiotics. Fifty five per cent of isolates from broiler meat were sensitive to all antibiotics tested however, 31% were resistant to four or more antibiotics. In contrast, none of the isolates recovered from spent hens, showed multidrug resistance and 54% and 45% were sensitive to all and all but one antibiotics tested, respectively.

In total, 44 *Salmonella* Enteritidis were analysed for their antibiotic susceptibility. This serotype showed very low level of resistance. All but three isolates were sensitive to all antibiotics tested except for colistin, for which 50% of the isolates showed resistance. This value has increased in 18% compared to 2011.

Resistance to colistin continues increasing.

In total, 21 *Salmonella* Paratyphi B isolates from poultry-derived food products were tested for their antibiotic susceptibility. The resistance of this serotype continue decreasing compared to previous years. Resistance to ampicillin was 51% vs 75% (2011), trimethoprim 67% vs. 89% (2011) and streptomycin 9.7 % compared to 64% in 2011. The degree of multiresistance, defined as resistance to more than 4 of antibiotics, observed was 28.6%.

Antimicrobial resistance in strains isolates from pork

In total 157 *Salmonella* strains from pork were tested for their antimicrobial susceptibility.

This includes strains from carcasses and cut meats. The resistance to cefotaxim, ceftazidim, ciprofloxacin, gentamicin, kanamycin and nalidixic acid was low (< 2%) however, high resistance to ampicillin (53%) streptomycin (48%) sulphamethoxazole (54%) and tetracycline (41%) was observed. This represents an increased between 13-15% for the three latter compared to 2011. The percentage of strains sensitive to all antibiotics were 49% which represents a decrease of 5% compared to last year. Of note, the increase of resistance of isolates to more than four antibiotics reaching values up to 21% which is an increase of 6% compared to 2011.

Salmonella Typhimurium was the predominant isolated serotype (67%), similar to last year. Resistance to ampicillin (73%) streptomycin (65%) sulphamethoxazole (69%) and tetracycline (52%) was observed. Twenty nine percent of all isolates were multidrug resistant. Of note the strong decrease of isolates sensitive to all antibiotics, reaching a value of only 14% compared to 38% in 2011. This is of particular concern.

Table Antimicrobial susceptibility testing of S. Saintpaul in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Saintpaul	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	1																		1							
Amphenicols - Chloramphenicol	16	1	0														1											
Amphenicols - Florfenicol	16	1	0														1											
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1																
Penicillins - Ampicillin	4	1	1																1									
Quinolones - Nalidixic acid	16	1	1																	1								
Tetracyclines - Tetracycline	8	1	1																	1								
Trimethoprim	2	1	1																1									
Cephalosporins - Ceftazidim	2	1	0									1																
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	1																						1			

Table Antimicrobial susceptibility testing of *S. Saintpaul* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Saintpaul Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Adabraka in Compound feedingstuffs for pigs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Adabraka	Compound feedingstuffs for pigs																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0													1											
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0										1														
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																			1					

Table Antimicrobial susceptibility testing of *S. Adabraka* in Compound feedingstuffs for pigs - quantitative data [Dilution method]

S. Adabraka Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs for pigs	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Livingstone in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Livingstone	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	8	0										7	1														
Aminoglycosides - Kanamycin	8	8	0													8												
Aminoglycosides - Streptomycin	32	8	1													2	1	4		1								
Amphenicols - Chloramphenicol	16	8	0													2	6											
Amphenicols - Florfenicol	16	8	0													4	4											
Cephalosporins - Cefotaxime	0.5	8	0							3	5																	
Fluoroquinolones - Ciprofloxacin	0.06	8	0				2		6																			
Penicillins - Ampicillin	4	8	1											5	2				1									
Quinolones - Nalidixic acid	16	8	0													8												
Tetracyclines - Tetracycline	8	8	1											1	6			1										
Trimethoprim	2	8	0										7	1														
Cephalosporins - Ceftazidim	2	8	0									5	3															
Polymyxins - Colistin	2	8	0												8													
Sulfonamides - Sulfamethoxazole	256	8	0																8									

Table Antimicrobial susceptibility testing of *S. Livingstone* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Livingstone Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. London in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. London Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory			Compound feedingstuffs, not specified																									
			unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0														1											
Aminoglycosides - Streptomycin	32	1	0														1											
Amphenicols - Chloramphenicol	16	1	0													1												
Amphenicols - Florfenicol	16	1	0												1													
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																					
Penicillins - Ampicillin	4	1	0											1														
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	0											1														
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0									1																
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	0																	1								

Table Antimicrobial susceptibility testing of *S. London* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. London Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Alachua in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Alachua	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0															1										
Amphenicols - Chloramphenicol	16	1	0															1										
Amphenicols - Florfenicol	16	1	0														1											
Cephalosporins - Cefotaxime	0.5	1	0								1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0							1																		
Penicillins - Ampicillin	4	1	1																1									
Quinolones - Nalidixic acid	16	1	0														1											
Tetracyclines - Tetracycline	8	1	1																	1								
Trimethoprim	2	1	1																1									
Cephalosporins - Ceftazidim	2	1	0										1															
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	1																						1			

Table Antimicrobial susceptibility testing of *S. Alachua* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Alachua Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Agona in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Agona	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	4	1									1	2					1										
Aminoglycosides - Kanamycin	8	4	1													3		1										
Aminoglycosides - Streptomycin	32	4	1														3				1							
Amphenicols - Chloramphenicol	16	4	0														4											
Amphenicols - Florfenicol	16	4	0													3	1											
Cephalosporins - Cefotaxime	0.5	4	0							1	3																	
Fluoroquinolones - Ciprofloxacin	0.06	4	0				3		1																			
Penicillins - Ampicillin	4	4	2											2			1		1									
Quinolones - Nalidixic acid	16	4	0													4												
Tetracyclines - Tetracycline	8	4	0											3	1													
Trimethoprim	2	4	0										4															
Cephalosporins - Ceftazidim	2	4	0										3		1													
Polymyxins - Colistin	2	4	0												4													
Sulfonamides - Sulfamethoxazole	256	4	1																2		1	1						

Table Antimicrobial susceptibility testing of *S. Agona* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Agona Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Kottbus in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Kottbus	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0													1												
Amphenicols - Chloramphenicol	16	1	0														1											
Amphenicols - Florfenicol	16	1	0													1												
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																			
Penicillins - Ampicillin	4	1	0												1													
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	0											1														
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0									1																
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	0																	1								

Table Antimicrobial susceptibility testing of *S. Kottbus* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Kottbus Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Enteritidis	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	2	0										2															
Aminoglycosides - Kanamycin	8	2	2																	2								
Aminoglycosides - Streptomycin	32	2	0													2												
Amphenicols - Chloramphenicol	16	2	0														2											
Amphenicols - Florfenicol	16	2	0													1	1											
Cephalosporins - Cefotaxime	0.5	2	0							2																		
Fluoroquinolones - Ciprofloxacin	0.06	2	0						2																			
Penicillins - Ampicillin	4	2	0											1	1													
Quinolones - Nalidixic acid	16	2	0													2												
Tetracyclines - Tetracycline	8	2	0											1	1													
Trimethoprim	2	2	0										2															
Cephalosporins - Ceftazidim	2	2	0									2																
Polymyxins - Colistin	2	2	0												2													
Sulfonamides - Sulfamethoxazole	256	2	0																2									

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Lexington in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Lexington	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0														1											
Amphenicols - Chloramphenicol	16	1	0														1											
Amphenicols - Florfenicol	16	1	0														1											
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																			
Penicillins - Ampicillin	4	1	0											1														
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	0												1													
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0										1															
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	0																		1							

Table Antimicrobial susceptibility testing of *S. Lexington* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Lexington Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Anatum in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Anatum	Compound feedingstuffs, not specified																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0															1									
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0							1																	
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0													1											
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	1																						1		

Table Antimicrobial susceptibility testing of *S. Anatum* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Anatum Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Idikan in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Idikan	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0														1											
Amphenicols - Chloramphenicol	16	1	0														1											
Amphenicols - Florfenicol	16	1	0														1											
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																			
Penicillins - Ampicillin	4	1	0											1														
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	0												1													
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0									1																
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	0																		1							

Table Antimicrobial susceptibility testing of *S. Idikan* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Idikan Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Carno in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Carno	Compound feedingstuffs, not specified																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																				
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of *S. Carno* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Carno Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Senftenberg in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Senftenberg	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	4	0										3	1														
Aminoglycosides - Kanamycin	8	4	0													4												
Aminoglycosides - Streptomycin	32	4	0														2	1	1									
Amphenicols - Chloramphenicol	16	4	0													1	3											
Amphenicols - Florfenicol	16	4	0													4												
Cephalosporins - Cefotaxime	0.5	4	1							1	2					1												
Fluoroquinolones - Ciprofloxacin	0.06	4	0				1		3																			
Penicillins - Ampicillin	4	4	1											2	1				1									
Quinolones - Nalidixic acid	16	4	0													4												
Tetracyclines - Tetracycline	8	4	1												3					1								
Trimethoprim	2	4	1										3						1									
Cephalosporins - Ceftazidim	2	4	1										3			1												
Polymyxins - Colistin	2	4	0												4													
Sulfonamides - Sulfamethoxazole	256	4	1																3							1		

Table Antimicrobial susceptibility testing of *S. Senftenberg* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Senftenberg Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Ouakam in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Ouakam	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	1														1											
Aminoglycosides - Kanamycin	8	1	1																		1							
Aminoglycosides - Streptomycin	32	1	1																		1							
Amphenicols - Chloramphenicol	16	1	1																		1							
Amphenicols - Florfenicol	16	1	0														1											
Cephalosporins - Cefotaxime	0.5	1	0								1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0							1																		
Penicillins - Ampicillin	4	1	1																	1								
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	1																		1							
Trimethoprim	2	1	1																	1								
Cephalosporins - Ceftazidim	2	1	0										1															
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	1																							1		

Table Antimicrobial susceptibility testing of *S. Ouakam* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Ouakam Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Infantis in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Infantis	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0														1											
Amphenicols - Chloramphenicol	16	1	0														1											
Amphenicols - Florfenicol	16	1	0													1												
Cephalosporins - Cefotaxime	0.5	1	0								1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																			
Penicillins - Ampicillin	4	1	0											1														
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	0												1													
Trimethoprim	2	1	0											1														
Cephalosporins - Ceftazidim	2	1	0										1															
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	0																1									

Table Antimicrobial susceptibility testing of *S. Infantis* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Infantis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 6,7:r:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 6,7:r:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Compound feedingstuffs, not specified																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0														1										
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0												1												
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0										1														
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of S. 6,7:r:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. 6,7:r:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 6,7:z29 in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 6,7:z29	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0											1														
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0															1										
Amphenicols - Chloramphenicol	16	1	0														1											
Amphenicols - Florfenicol	16	1	0														1											
Cephalosporins - Cefotaxime	0.5	1	0								1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																			
Penicillins - Ampicillin	4	1	0												1													
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	0												1													
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0										1															
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	0																	1								

Table Antimicrobial susceptibility testing of S. 6,7:z29 in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. 6,7:z29	Compound feedingstuffs, not specified	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Hindmarsh in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Hindmarsh	Compound feedingstuffs, not specified																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	2	0										2															
Aminoglycosides - Kanamycin	8	2	0													2												
Aminoglycosides - Streptomycin	32	2	0														1	1										
Amphenicols - Chloramphenicol	16	2	0														2											
Amphenicols - Florfenicol	16	2	0													1	1											
Cephalosporins - Cefotaxime	0.5	2	0								2																	
Fluoroquinolones - Ciprofloxacin	0.06	2	0						2																			
Penicillins - Ampicillin	4	2	0											2														
Quinolones - Nalidixic acid	16	2	0													2												
Tetracyclines - Tetracycline	8	2	1												1					1								
Trimethoprim	2	2	0										2															
Cephalosporins - Ceftazidim	2	2	0										2															
Polymyxins - Colistin	2	2	0												2													
Sulfonamides - Sulfamethoxazole	256	2	0																2									

Table Antimicrobial susceptibility testing of *S. Hindmarsh* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Hindmarsh Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Llandoff in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Llandoff	Compound feedingstuffs, not specified																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	0										2														
Aminoglycosides - Kanamycin	8	2	0													2											
Aminoglycosides - Streptomycin	32	2	0														2										
Amphenicols - Chloramphenicol	16	2	0													1	1										
Amphenicols - Florfenicol	16	2	0													2											
Cephalosporins - Cefotaxime	0.5	2	0							1	1																
Fluoroquinolones - Ciprofloxacin	0.06	2	0				1		1																		
Penicillins - Ampicillin	4	2	0											2													
Quinolones - Nalidixic acid	16	2	0													2											
Tetracyclines - Tetracycline	8	2	0											1	1												
Trimethoprim	2	2	0										2														
Cephalosporins - Ceftazidim	2	2	0									1	1														
Polymyxins - Colistin	2	2	0												2												
Sulfonamides - Sulfamethoxazole	256	2	0															1	1								

Table Antimicrobial susceptibility testing of *S. Llandoff* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Llandoff Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Mbandaka in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Mbandaka	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	3	0										2	1														
Aminoglycosides - Kanamycin	8	3	0													3												
Aminoglycosides - Streptomycin	32	3	0														2	1										
Amphenicols - Chloramphenicol	16	3	0														3											
Amphenicols - Florfenicol	16	3	0													3												
Cephalosporins - Cefotaxime	0.5	3	0								3																	
Fluoroquinolones - Ciprofloxacin	0.06	3	0				2		1																			
Penicillins - Ampicillin	4	3	0											3														
Quinolones - Nalidixic acid	16	3	0													3												
Tetracyclines - Tetracycline	8	3	1												2					1								
Trimethoprim	2	3	0										2		1													
Cephalosporins - Ceftazidim	2	3	0										3															
Polymyxins - Colistin	2	3	0												3													
Sulfonamides - Sulfamethoxazole	256	3	0																	1	2							

Table Antimicrobial susceptibility testing of *S. Mbandaka* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Mbandaka Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Minnesota in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Minnesota	Compound feedingstuffs, not specified																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0														1										
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	1																1								
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																		1						

Table Antimicrobial susceptibility testing of *S. Minnesota* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Minnesota Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Not typeable in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Not typeable	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	2	0									1	1															
Aminoglycosides - Kanamycin	8	2	0													2												
Aminoglycosides - Streptomycin	32	2	0														1		1									
Amphenicols - Chloramphenicol	16	2	0													1	1											
Amphenicols - Florfenicol	16	2	0													2												
Cephalosporins - Cefotaxime	0.5	2	0							1	1																	
Fluoroquinolones - Ciprofloxacin	0.06	2	1				1					1																
Penicillins - Ampicillin	4	2	1											1					1									
Quinolones - Nalidixic acid	16	2	1													1			1									
Tetracyclines - Tetracycline	8	2	0											2														
Trimethoprim	2	2	1										1						1									
Cephalosporins - Ceftazidim	2	2	0									2																
Polymyxins - Colistin	2	2	0												2													
Sulfonamides - Sulfamethoxazole	256	2	1																1						1			

Table Antimicrobial susceptibility testing of Not typeable in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Not typeable Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,12:i:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified																											
	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	3	0									3																
Aminoglycosides - Kanamycin	8	3	0												3													
Aminoglycosides - Streptomycin	32	3	2														1			2								
Amphenicols - Chloramphenicol	16	3	0													3												
Amphenicols - Florfenicol	16	3	0												3													
Cephalosporins - Cefotaxime	0.5	3	0							2	1																	
Fluoroquinolones - Ciprofloxacin	0.06	3	2						1			1	1															
Penicillins - Ampicillin	4	3	3															3										
Quinolones - Nalidixic acid	16	3	2												1					2								
Tetracyclines - Tetracycline	8	3	2										1						2									
Trimethoprim	2	3	2									1						2										
Cephalosporins - Ceftazidim	2	3	0								1	2																
Polymyxins - Colistin	2	3	2											1	2													
Sulfonamides - Sulfamethoxazole	256	3	3																						3			

Table Antimicrobial susceptibility testing of S. 4,12:i:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. 4,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Other serovars in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Other serovars	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	5	0										4	1														
Aminoglycosides - Kanamycin	8	5	1													4		1										
Aminoglycosides - Streptomycin	32	5	1														2	2			1							
Amphenicols - Chloramphenicol	16	5	0														5											
Amphenicols - Florfenicol	16	5	0													4	1											
Cephalosporins - Cefotaxime	0.5	5	0							2	3																	
Fluoroquinolones - Ciprofloxacin	0.06	5	0						4	1																		
Penicillins - Ampicillin	4	5	1											2	1	1			1									
Quinolones - Nalidixic acid	16	5	0													4		1										
Tetracyclines - Tetracycline	8	5	2											1	1	1				2								
Trimethoprim	2	5	2										2	1		1			1									
Cephalosporins - Ceftazidim	2	5	0									3	2															
Polymyxins - Colistin	2	5	1												4	1												
Sulfonamides - Sulfamethoxazole	256	5	1														1			2		1			1			

Table Antimicrobial susceptibility testing of Other serovars in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Other serovars	Compound feedingstuffs, not specified	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Derby in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Derby	Compound feedingstuffs, not specified																										
	Isolates out of a monitoring program (yes/no)																										
Antimicrobials:	Number of isolates available in the laboratory	unknown																									
		Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin		2	3	0										2	1												
Aminoglycosides - Kanamycin		8	3	0													3										
Aminoglycosides - Streptomycin		32	3	0														3									
Amphenicols - Chloramphenicol		16	3	0														3									
Amphenicols - Florfenicol		16	3	0													1	2									
Cephalosporins - Cefotaxime		0.5	3	0								3															
Fluoroquinolones - Ciprofloxacin		0.06	3	1						2			1														
Penicillins - Ampicillin		4	3	0											2	1											
Quinolones - Nalidixic acid		16	3	1													2				1						
Tetracyclines - Tetracycline		8	3	0												3											
Trimethoprim		2	3	0										3													
Cephalosporins - Ceftazidim		2	3	0									1	2													
Polymyxins - Colistin		2	3	0												3											
Sulfonamides - Sulfamethoxazole		256	3	1																	2			1			

Table Antimicrobial susceptibility testing of *S. Derby* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Derby Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Rissen in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Rissen	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	3	0										3															
Aminoglycosides - Kanamycin	8	3	0													3												
Aminoglycosides - Streptomycin	32	3	1														2				1							
Amphenicols - Chloramphenicol	16	3	0														3											
Amphenicols - Florfenicol	16	3	0													1	2											
Cephalosporins - Cefotaxime	0.5	3	0							1	2																	
Fluoroquinolones - Ciprofloxacin	0.06	3	1				2				1																	
Penicillins - Ampicillin	4	3	0											1	2													
Quinolones - Nalidixic acid	16	3	1													2				1								
Tetracyclines - Tetracycline	8	3	1												2					1								
Trimethoprim	2	3	1										2						1									
Cephalosporins - Ceftazidim	2	3	0										3															
Polymyxins - Colistin	2	3	0												3													
Sulfonamides - Sulfamethoxazole	256	3	1																	1	1					1		

Table Antimicrobial susceptibility testing of *S. Rissen* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Rissen Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,5,12:i:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,5,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified																											
	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	3	0										3															
Aminoglycosides - Kanamycin	8	3	0													3												
Aminoglycosides - Streptomycin	32	3	2																1		2							
Amphenicols - Chloramphenicol	16	3	0													1	2											
Amphenicols - Florfenicol	16	3	0													3												
Cephalosporins - Cefotaxime	0.5	3	1							2						1												
Fluoroquinolones - Ciprofloxacin	0.06	3	1				1		1			1																
Penicillins - Ampicillin	4	3	3																3									
Quinolones - Nalidixic acid	16	3	1													1	1			1								
Tetracyclines - Tetracycline	8	3	1												2					1								
Trimethoprim	2	3	2										1						2									
Cephalosporins - Ceftazidim	2	3	0									3																
Polymyxins - Colistin	2	3	2												1	2												
Sulfonamides - Sulfamethoxazole	256	3	2																1							2		

Table Antimicrobial susceptibility testing of S. 4,5,12:i:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. 4,5,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Montevideo in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Montevideo	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	5	1										3	1		1												
Aminoglycosides - Kanamycin	8	5	1													4		1										
Aminoglycosides - Streptomycin	32	5	1														3		1	1								
Amphenicols - Chloramphenicol	16	5	0													2	3											
Amphenicols - Florfenicol	16	5	0													5												
Cephalosporins - Cefotaxime	0.5	5	0							4	1																	
Fluoroquinolones - Ciprofloxacin	0.06	5	2				2		1		1	1																
Penicillins - Ampicillin	4	5	1											2	2				1									
Quinolones - Nalidixic acid	16	5	1													3		1		1								
Tetracyclines - Tetracycline	8	5	0												5													
Trimethoprim	2	5	1										4			1												
Cephalosporins - Ceftazidim	2	5	0									5																
Polymyxins - Colistin	2	5	1												4	1												
Sulfonamides - Sulfamethoxazole	256	5	0																1	3		1						

Table Antimicrobial susceptibility testing of *S. Montevideo* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Montevideo Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 6,7:-:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 6,7:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Compound feedingstuffs, not specified																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Kanamycin	8	2	0													2										
Aminoglycosides - Streptomycin	32	2	0															2								
Amphenicols - Chloramphenicol	16	2	0														1	1								
Amphenicols - Florfenicol	16	2	0														1	1								
Cephalosporins - Cefotaxime	0.5	2	0								2															
Fluoroquinolones - Ciprofloxacin	0.06	2	0						1	1																
Penicillins - Ampicillin	4	2	0												1	1										
Quinolones - Nalidixic acid	16	2	0													1	1									
Tetracyclines - Tetracycline	8	2	0												1	1										
Trimethoprim	2	2	0										1	1												
Cephalosporins - Ceftazidim	2	2	0									1	1													
Polymyxins - Colistin	2	2	0												2											
Sulfonamides - Sulfamethoxazole	256	2	0																2							

Table Antimicrobial susceptibility testing of S. 6,7:-:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. 6,7:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Ohio in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Ohio	Compound feedingstuffs, not specified																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0									1	1													
Aminoglycosides - Kanamycin	8	2	0													2										
Aminoglycosides - Streptomycin	32	2	0														2									
Amphenicols - Chloramphenicol	16	2	0														2									
Amphenicols - Florfenicol	16	2	0														2									
Cephalosporins - Cefotaxime	0.5	2	0								2															
Fluoroquinolones - Ciprofloxacin	0.06	2	0						2																	
Penicillins - Ampicillin	4	2	0											1	1											
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0									1	1													
Polymyxins - Colistin	2	2	0												2											
Sulfonamides - Sulfamethoxazole	256	2	0																	2						

Table Antimicrobial susceptibility testing of *S. Ohio* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Ohio Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	11	0										9	2														
Aminoglycosides - Kanamycin	8	11	0													10	1											
Aminoglycosides - Streptomycin	32	11	6														4	1			6							
Amphenicols - Chloramphenicol	16	11	1													1	9			1								
Amphenicols - Florfenicol	16	11	0													10	1											
Cephalosporins - Cefotaxime	0.5	11	0							10	1																	
Fluoroquinolones - Ciprofloxacin	0.06	11	2				2		7		2																	
Penicillins - Ampicillin	4	11	10											1					10									
Quinolones - Nalidixic acid	16	11	1													10				1								
Tetracyclines - Tetracycline	8	11	4												7					4								
Trimethoprim	2	11	5										5	1		1			4									
Cephalosporins - Ceftazidim	2	11	0									7	4															
Polymyxins - Colistin	2	11	1												10	1												
Sulfonamides - Sulfamethoxazole	256	11	6																	3	1	1				6		

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Give in Compound feedingstuffs for pigs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Give	Compound feedingstuffs for pigs																									
	Isolates out of a monitoring program (yes/no)																									
Antimicrobials:	Number of isolates available in the laboratory	unknown																								
	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	6	0										6													
Aminoglycosides - Kanamycin	8	6	1													5		1								
Aminoglycosides - Streptomycin	32	6	0													1	3	1	1							
Amphenicols - Chloramphenicol	16	6	0													3	2	1								
Amphenicols - Florfenicol	16	6	0													5	1									
Cephalosporins - Cefotaxime	0.5	6	0							5	1															
Fluoroquinolones - Ciprofloxacin	0.06	6	2				1		3		1	1														
Penicillins - Ampicillin	4	6	2											4				1	1							
Quinolones - Nalidixic acid	16	6	2													4				2						
Tetracyclines - Tetracycline	8	6	1											2	3				1							
Trimethoprim	2	6	2										4				1		1							
Cephalosporins - Ceftazidim	2	6	0									5	1													
Polymyxins - Colistin	2	6	0												6											
Sulfonamides - Sulfamethoxazole	256	6	0																	5	1					

Table Antimicrobial susceptibility testing of *S. Give* in Compound feedingstuffs for pigs - quantitative data [Dilution method]

S. Give Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs for pigs	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Isangi in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Isangi	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0											1														
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0														1											
Amphenicols - Chloramphenicol	16	1	0													1												
Amphenicols - Florfenicol	16	1	0													1												
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																			
Penicillins - Ampicillin	4	1	0											1														
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	0											1														
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0										1															
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	0																1									

Table Antimicrobial susceptibility testing of *S. Isangi* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Isangi Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Cerro in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Cerro	Compound feedingstuffs, not specified																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	0										3														
Aminoglycosides - Kanamycin	8	3	0													3											
Aminoglycosides - Streptomycin	32	3	0													1	2										
Amphenicols - Chloramphenicol	16	3	0													2	1										
Amphenicols - Florfenicol	16	3	0													3											
Cephalosporins - Cefotaxime	0.5	3	0							3																	
Fluoroquinolones - Ciprofloxacin	0.06	3	0				2		1																		
Penicillins - Ampicillin	4	3	0											3													
Quinolones - Nalidixic acid	16	3	0													3											
Tetracyclines - Tetracycline	8	3	0											2	1												
Trimethoprim	2	3	0										3														
Cephalosporins - Ceftazidim	2	3	0									1	2														
Polymyxins - Colistin	2	3	0												3												
Sulfonamides - Sulfamethoxazole	256	3	1																			2			1		

Table Antimicrobial susceptibility testing of *S. Cerro* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Cerro Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,12:-:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,12:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified																											
	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	2	0								1	1																
Aminoglycosides - Kanamycin	8	2	0												2													
Aminoglycosides - Streptomycin	32	2	0														1	1										
Amphenicols - Chloramphenicol	16	2	0												1	1												
Amphenicols - Florfenicol	16	2	0												2													
Cephalosporins - Cefotaxime	0.5	2	0						1	1																		
Fluoroquinolones - Ciprofloxacin	0.06	2	0						2																			
Penicillins - Ampicillin	4	2	0											2														
Quinolones - Nalidixic acid	16	2	0												2													
Tetracyclines - Tetracycline	8	2	0											2														
Trimethoprim	2	2	1									1						1										
Cephalosporins - Ceftazidim	2	2	0								2																	
Polymyxins - Colistin	2	2	1											1	1													
Sulfonamides - Sulfamethoxazole	256	2	0																1		1							

Table Antimicrobial susceptibility testing of S. 4,12:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. 4,12:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Paratyphi B in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Paratyphi B	Compound feedingstuffs, not specified																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	3	1									2							1									
Aminoglycosides - Kanamycin	8	3	0													2	1											
Aminoglycosides - Streptomycin	32	3	1																2		1							
Amphenicols - Chloramphenicol	16	3	0														3											
Amphenicols - Florfenicol	16	3	0													3												
Cephalosporins - Cefotaxime	0.5	3	1								2					1												
Fluoroquinolones - Ciprofloxacin	0.06	3	0						2	1																		
Penicillins - Ampicillin	4	3	1												1	1			1									
Quinolones - Nalidixic acid	16	3	0													3												
Tetracyclines - Tetracycline	8	3	0												2	1												
Trimethoprim	2	3	3																3									
Cephalosporins - Ceftazidim	2	3	1									1	1			1												
Polymyxins - Colistin	2	3	1												2	1												
Sulfonamides - Sulfamethoxazole	256	3	2																1							2		

Table Antimicrobial susceptibility testing of *S. Paratyphi B* in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. Paratyphi B Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 3,19:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 3,19:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified																											
	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	3	0									3																
Aminoglycosides - Kanamycin	8	3	0												3													
Aminoglycosides - Streptomycin	32	3	0													2	1											
Amphenicols - Chloramphenicol	16	3	0													3												
Amphenicols - Florfenicol	16	3	0												3													
Cephalosporins - Cefotaxime	0.5	3	0							3																		
Fluoroquinolones - Ciprofloxacin	0.06	3	0						3																			
Penicillins - Ampicillin	4	3	0										2	1														
Quinolones - Nalidixic acid	16	3	0												2	1												
Tetracyclines - Tetracycline	8	3	0											3														
Trimethoprim	2	3	0									2	1															
Cephalosporins - Ceftazidim	2	3	0									2		1														
Polymyxins - Colistin	2	3	0											3														
Sulfonamides - Sulfamethoxazole	256	3	0																2	1								

Table Antimicrobial susceptibility testing of S. 3,19:-:- in Compound feedingstuffs, not specified - quantitative data [Dilution method]

S. 3,19:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Compound feedingstuffs, not specified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Salmonella spp. in Meat from broilers (Gallus gallus) - Surveillance - Unspecified - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Salmonella spp.	Meat from broilers (Gallus gallus) - Surveillance																											
	yes																											
	34																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	34	0								19	12	2	1														
Aminoglycosides - Kanamycin	8	34	0												34													
Aminoglycosides - Streptomycin	32	34	2											1	6	9	10	6	2									
Amphenicols - Chloramphenicol	16	34	0											1	7	25	1											
Amphenicols - Florfenicol	16	34	0												31	3												
Cephalosporins - Cefotaxime	0.5	34	0						5	25	4																	
Fluoroquinolones - Ciprofloxacin	0.06	34	11						21	2	0	2	8	1														
Penicillins - Ampicillin	4	34	8											19	7	0	0	0	8									
Quinolones - Nalidixic acid	16	34	11												22	1	0	0	11									
Tetracyclines - Tetracycline	8	34	0											5	28	1												
Trimethoprim	2	34	11									22	1	0	0	0	0	11										
Cephalosporins - Ceftazidim	2	34	0								10	24																
Polymyxins - Colistin	2	34	2											32	2													
Sulfonamides - Sulfamethoxazole		34	34														5	19	7	0	0	0				3		

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Meat from broilers (*Gallus gallus*) - Surveillance - Unspecified - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - Surveillance	
	yes	
	34	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin		
Aminoglycosides - Kanamycin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Amphenicols - Florfenicol		
Cephalosporins - Cefotaxime		
Fluoroquinolones - Ciprofloxacin		
Penicillins - Ampicillin		
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Trimethoprim		
Cephalosporins - Ceftazidim		
Polymyxins - Colistin		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of S. Livingstone in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Livingstone	Other products of animal origin																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Kanamycin	8	2	0													2										
Aminoglycosides - Streptomycin	32	2	0														1	1								
Amphenicols - Chloramphenicol	16	2	0														2									
Amphenicols - Florfenicol	16	2	0													1	1									
Cephalosporins - Cefotaxime	0.5	2	1							1						1										
Fluoroquinolones - Ciprofloxacin	0.06	2	1				1					1														
Penicillins - Ampicillin	4	2	1											1					1							
Quinolones - Nalidixic acid	16	2	1													1				1						
Tetracyclines - Tetracycline	8	2	1												1					1						
Trimethoprim	2	2	1										1						1							
Cephalosporins - Ceftazidim	2	2	1									1						1								
Polymyxins - Colistin	2	2	0												2											
Sulfonamides - Sulfamethoxazole	256	2	1																	1					1	

Table Antimicrobial susceptibility testing of *S. Livingstone* in Other products of animal origin - quantitative data [Dilution method]

S. Livingstone Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Mbandaka in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Mbandaka	Other products of animal origin																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Kanamycin	8	1	0													1										
Aminoglycosides - Streptomycin	32	1	0															1								
Amphenicols - Chloramphenicol	16	1	0														1									
Amphenicols - Florfenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1														
Penicillins - Ampicillin	4	1	0											1												
Quinolones - Nalidixic acid	16	1	1																1							
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	1																1							
Cephalosporins - Ceftazidim	2	1	0									1														
Polymyxins - Colistin	2	1	0												1											
Sulfonamides - Sulfamethoxazole	256	1	0																	1						

Table Antimicrobial susceptibility testing of *S. Mbandaka* in Other products of animal origin - quantitative data [Dilution method]

S. Mbandaka Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Enteritidis	Other products of animal origin																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0									1	1													
Aminoglycosides - Kanamycin	8	2	0													2										
Aminoglycosides - Streptomycin	32	2	1												1						1					
Amphenicols - Chloramphenicol	16	2	0														2									
Amphenicols - Florfenicol	16	2	0													2										
Cephalosporins - Cefotaxime	0.5	2	1							1						1										
Fluoroquinolones - Ciprofloxacin	0.06	2	0						2																	
Penicillins - Ampicillin	4	2	1											1					1							
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	1												1					1						
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	1									1						1								
Polymyxins - Colistin	2	2	2													2										
Sulfonamides - Sulfamethoxazole	256	2	1																	1					1	

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Other products of animal origin - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Give in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Give	Other products of animal origin																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	0										2														
Aminoglycosides - Kanamycin	8	2	0													2											
Aminoglycosides - Streptomycin	32	2	0														2										
Amphenicols - Chloramphenicol	16	2	0													1	1										
Amphenicols - Florfenicol	16	2	0													2											
Cephalosporins - Cefotaxime	0.5	2	0							2																	
Fluoroquinolones - Ciprofloxacin	0.06	2	0				1			1																	
Penicillins - Ampicillin	4	2	0											2													
Quinolones - Nalidixic acid	16	2	0													2											
Tetracyclines - Tetracycline	8	2	0												2												
Trimethoprim	2	2	0										2														
Cephalosporins - Ceftazidim	2	2	0									1	1														
Polymyxins - Colistin	2	2	0												2												
Sulfonamides - Sulfamethoxazole	256	2	0																1	1							

Table Antimicrobial susceptibility testing of *S. Give* in Other products of animal origin - quantitative data [Dilution method]

S. Give Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Other products of animal origin	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Idikan in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Idikan	Other products of animal origin																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	0										3														
Aminoglycosides - Kanamycin	8	3	0													3											
Aminoglycosides - Streptomycin	32	3	0														3										
Amphenicols - Chloramphenicol	16	3	0														2	1									
Amphenicols - Florfenicol	16	3	0													1	1	1									
Cephalosporins - Cefotaxime	0.5	3	1								1	1			1												
Fluoroquinolones - Ciprofloxacin	0.06	3	0						3																		
Penicillins - Ampicillin	4	3	0											1	1	1											
Quinolones - Nalidixic acid	16	3	0													3											
Tetracyclines - Tetracycline	8	3	0												2	1											
Trimethoprim	2	3	0										3														
Cephalosporins - Ceftazidim	2	3	1										2				1										
Polymyxins - Colistin	2	3	0												3												
Sulfonamides - Sulfamethoxazole	256	3	0																	3							

Table Antimicrobial susceptibility testing of *S. Idikan* in Other products of animal origin - quantitative data [Dilution method]

S. Idikan Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 3,19:- in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 3,19:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin																										
	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0									1															
Aminoglycosides - Kanamycin	8	1	0												1												
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0										1														
Quinolones - Nalidixic acid	16	1	0												1												
Tetracyclines - Tetracycline	8	1	0											1													
Trimethoprim	2	1	0									1															
Cephalosporins - Ceftazidim	2	1	0								1																
Polymyxins - Colistin	2	1	0											1													
Sulfonamides - Sulfamethoxazole	256	1	0																1								

Table Antimicrobial susceptibility testing of S. 3,19:-:- in Other products of animal origin - quantitative data [Dilution method]

S. 3,19:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Goldcoast in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Goldcoast	Other products of animal origin																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0										1														
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of *S. Goldcoast* in Other products of animal origin - quantitative data [Dilution method]

S. Goldcoast Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Anatum in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Anatum	Other products of animal origin																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Kanamycin	8	1	0													1										
Aminoglycosides - Streptomycin	32	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Amphenicols - Florfenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.06	1	1								1															
Penicillins - Ampicillin	4	1	1																1							
Quinolones - Nalidixic acid	16	1	1																	1						
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0											1												
Polymyxins - Colistin	2	1	0												1											
Sulfonamides - Sulfamethoxazole	256	1	0																1							

Table Antimicrobial susceptibility testing of *S. Anatum* in Other products of animal origin - quantitative data [Dilution method]

S. Anatum Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Other products of animal origin	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Chandans in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Chandans	Other products of animal origin																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Kanamycin	8	2	0													2										
Aminoglycosides - Streptomycin	32	2	0														2									
Amphenicols - Chloramphenicol	16	2	0														2									
Amphenicols - Florfenicol	16	2	0													2										
Cephalosporins - Cefotaxime	0.5	2	0							1	1															
Fluoroquinolones - Ciprofloxacin	0.06	2	0						2																	
Penicillins - Ampicillin	4	2	0											2												
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0											1	1											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0									1	1													
Polymyxins - Colistin	2	2	0												2											
Sulfonamides - Sulfamethoxazole	256	2	0															1	1							

Table Antimicrobial susceptibility testing of *S. Chandans* in Other products of animal origin - quantitative data [Dilution method]

S. Chandans Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Other serovars in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Other serovars	Other products of animal origin																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Kanamycin	8	2	0													2										
Aminoglycosides - Streptomycin	32	2	1															1		1						
Amphenicols - Chloramphenicol	16	2	0													1	1									
Amphenicols - Florfenicol	16	2	0													2										
Cephalosporins - Cefotaxime	0.5	2	0							1	1															
Fluoroquinolones - Ciprofloxacin	0.06	2	1						1				1													
Penicillins - Ampicillin	4	2	0											2												
Quinolones - Nalidixic acid	16	2	1													1				1						
Tetracyclines - Tetracycline	8	2	0											1	1											
Trimethoprim	2	2	1										1						1							
Cephalosporins - Ceftazidim	2	2	0									1	1													
Polymyxins - Colistin	2	2	0												2											
Sulfonamides - Sulfamethoxazole	256	2	0																1	1						

Table Antimicrobial susceptibility testing of Other serovars in Other products of animal origin - quantitative data [Dilution method]

Other serovars	Other products of animal origin	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 6,7:z10:- in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 6,7:z10:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Other products of animal origin																									
	unknown																									
	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Antimicrobials:																										
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Kanamycin	8	1	0													1										
Aminoglycosides - Streptomycin	32	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Amphenicols - Florfenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																	
Penicillins - Ampicillin	4	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Polymyxins - Colistin	2	1	0												1											
Sulfonamides - Sulfamethoxazole	256	1	0																		1					

Table Antimicrobial susceptibility testing of S. 6,7:z10:- in Other products of animal origin - quantitative data [Dilution method]

S. 6,7:z10:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Hadar in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Hadar	Other products of animal origin																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	1																	1							
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	1																1								
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	1																	1							
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	1																						1		

Table Antimicrobial susceptibility testing of *S. Hadar* in Other products of animal origin - quantitative data [Dilution method]

S. Hadar Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Aberdeen in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Aberdeen	Other products of animal origin																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																				
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0											1													
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																		1						

Table Antimicrobial susceptibility testing of *S. Aberdeen* in Other products of animal origin - quantitative data [Dilution method]

S. Aberdeen Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 6,7:z29 in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 6,7:z29	Other products of animal origin																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0															1									
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																				
Penicillins - Ampicillin	4	1	1																1								
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0										1														
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of S. 6,7:z29 in Other products of animal origin - quantitative data [Dilution method]

S. 6,7:z29 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Llandoff in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Llandoff	Other products of animal origin																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Kanamycin	8	1	0													1										
Aminoglycosides - Streptomycin	32	1	0																1							
Amphenicols - Chloramphenicol	16	1	1																	1						
Amphenicols - Florfenicol	16	1	1																1							
Cephalosporins - Cefotaxime	0.5	1	0									1														
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1														
Penicillins - Ampicillin	4	1	1																1							
Quinolones - Nalidixic acid	16	1	1																	1						
Tetracyclines - Tetracycline	8	1	1																	1						
Trimethoprim	2	1	1																1							
Cephalosporins - Ceftazidim	2	1	0										1													
Polymyxins - Colistin	2	1	1													1										
Sulfonamides - Sulfamethoxazole	256	1	1																						1	

Table Antimicrobial susceptibility testing of *S. Llandoff* in Other products of animal origin - quantitative data [Dilution method]

S. Llandoff Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Ayton in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Ayton	Other products of animal origin																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																				
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of *S. Ayton* in Other products of animal origin - quantitative data [Dilution method]

S. Ayton Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Not typeable in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Not typeable	Other products of animal origin																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Kanamycin	8	2	0													2										
Aminoglycosides - Streptomycin	32	2	1														1			1						
Amphenicols - Chloramphenicol	16	2	0														2									
Amphenicols - Florfenicol	16	2	0													1	1									
Cephalosporins - Cefotaxime	0.5	2	0							2																
Fluoroquinolones - Ciprofloxacin	0.06	2	0						2																	
Penicillins - Ampicillin	4	2	0											1	1											
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	1												1					1						
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0									2														
Polymyxins - Colistin	2	2	0												2											
Sulfonamides - Sulfamethoxazole	256	2	0																		2					

Table Antimicrobial susceptibility testing of Not typeable in Other products of animal origin - quantitative data [Dilution method]

Not typeable Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Agona in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Agona	Other products of animal origin																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Kanamycin	8	2	0													2										
Aminoglycosides - Streptomycin	32	2	1														1			1						
Amphenicols - Chloramphenicol	16	2	0														1	1								
Amphenicols - Florfenicol	16	2	0														1	1								
Cephalosporins - Cefotaxime	0.5	2	0							1		1														
Fluoroquinolones - Ciprofloxacin	0.06	2	1						1					1												
Penicillins - Ampicillin	4	2	0											1	1											
Quinolones - Nalidixic acid	16	2	1													1			1							
Tetracyclines - Tetracycline	8	2	1												1			1								
Trimethoprim	2	2	0										1	1												
Cephalosporins - Ceftazidim	2	2	0										2													
Polymyxins - Colistin	2	2	0												2											
Sulfonamides - Sulfamethoxazole	256	2	0																	1		1				

Table Antimicrobial susceptibility testing of *S. Agona* in Other products of animal origin - quantitative data [Dilution method]

S. Agona Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,5,12:i:- in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,5,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin																										
	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	0									2															
Aminoglycosides - Kanamycin	8	2	0												2												
Aminoglycosides - Streptomycin	32	2	1														1			1							
Amphenicols - Chloramphenicol	16	2	0													2											
Amphenicols - Florfenicol	16	2	0												1	1											
Cephalosporins - Cefotaxime	0.5	2	0							2																	
Fluoroquinolones - Ciprofloxacin	0.06	2	0						2																		
Penicillins - Ampicillin	4	2	1											1				1									
Quinolones - Nalidixic acid	16	2	0												2												
Tetracyclines - Tetracycline	8	2	1											1					1								
Trimethoprim	2	2	0									2															
Cephalosporins - Ceftazidim	2	2	0								2																
Polymyxins - Colistin	2	2	0											2													
Sulfonamides - Sulfamethoxazole	256	2	2																						2		

Table Antimicrobial susceptibility testing of S. 4,5,12:i:- in Other products of animal origin - quantitative data [Dilution method]

S. 4,5,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Derby in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Derby	Other products of animal origin																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0															1									
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0												1												
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of *S. Derby* in Other products of animal origin - quantitative data [Dilution method]

S. Derby Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Paratyphi B in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Paratyphi B	Other products of animal origin																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	0									2															
Aminoglycosides - Kanamycin	8	2	0													2											
Aminoglycosides - Streptomycin	32	2	0																2								
Amphenicols - Chloramphenicol	16	2	0													1	1										
Amphenicols - Florfenicol	16	2	0													2											
Cephalosporins - Cefotaxime	0.5	2	2													2											
Fluoroquinolones - Ciprofloxacin	0.06	2	2										2														
Penicillins - Ampicillin	4	2	2																2								
Quinolones - Nalidixic acid	16	2	2																	2							
Tetracyclines - Tetracycline	8	2	0												2												
Trimethoprim	2	2	2																2								
Cephalosporins - Ceftazidim	2	2	2															2									
Polymyxins - Colistin	2	2	0												2												
Sulfonamides - Sulfamethoxazole	256	2	2																						2		

Table Antimicrobial susceptibility testing of *S. Paratyphi B* in Other products of animal origin - quantitative data [Dilution method]

S. Paratyphi B Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Virchow in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Virchow	Other products of animal origin																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Kanamycin	8	1	0													1										
Aminoglycosides - Streptomycin	32	1	1																1							
Amphenicols - Chloramphenicol	16	1	0														1									
Amphenicols - Florfenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																	
Penicillins - Ampicillin	4	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	1																1							
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Polymyxins - Colistin	2	1	0												1											
Sulfonamides - Sulfamethoxazole	256	1	0																			1				

Table Antimicrobial susceptibility testing of *S. Virchow* in Other products of animal origin - quantitative data [Dilution method]

S. Virchow Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Montevideo in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Montevideo	Other products of animal origin																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	0										2														
Aminoglycosides - Kanamycin	8	2	0													2											
Aminoglycosides - Streptomycin	32	2	0														2										
Amphenicols - Chloramphenicol	16	2	0														2										
Amphenicols - Florfenicol	16	2	0													2											
Cephalosporins - Cefotaxime	0.5	2	0							1	1																
Fluoroquinolones - Ciprofloxacin	0.06	2	0				2																				
Penicillins - Ampicillin	4	2	0											2													
Quinolones - Nalidixic acid	16	2	0													2											
Tetracyclines - Tetracycline	8	2	0												2												
Trimethoprim	2	2	0										2														
Cephalosporins - Ceftazidim	2	2	0										2														
Polymyxins - Colistin	2	2	0												2												
Sulfonamides - Sulfamethoxazole	256	2	0																	2							

Table Antimicrobial susceptibility testing of *S. Montevideo* in Other products of animal origin - quantitative data [Dilution method]

S. Montevideo Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,12:d:- in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,12:d:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Other products of animal origin																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																				
Penicillins - Ampicillin	4	1	0												1												
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0										1														
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																		1						

Table Antimicrobial susceptibility testing of S. 4,12:d:- in Other products of animal origin - quantitative data [Dilution method]

S. 4,12:d:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Other products of animal origin																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	0										2														
Aminoglycosides - Kanamycin	8	2	0													2											
Aminoglycosides - Streptomycin	32	2	1															1			1						
Amphenicols - Chloramphenicol	16	2	0													1		1									
Amphenicols - Florfenicol	16	2	0													1		1									
Cephalosporins - Cefotaxime	0.5	2	0							1		1															
Fluoroquinolones - Ciprofloxacin	0.06	2	0						1	1																	
Penicillins - Ampicillin	4	2	1											1					1								
Quinolones - Nalidixic acid	16	2	0													1	1										
Tetracyclines - Tetracycline	8	2	1												1					1							
Trimethoprim	2	2	1										1						1								
Cephalosporins - Ceftazidim	2	2	0									1	1														
Polymyxins - Colistin	2	2	0												2												
Sulfonamides - Sulfamethoxazole	256	2	1																1						1		

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Other products of animal origin - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Rissen in Other products of animal origin - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Rissen	Other products of animal origin																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0										3													
Aminoglycosides - Kanamycin	8	3	0													3										
Aminoglycosides - Streptomycin	32	3	1														2				1					
Amphenicols - Chloramphenicol	16	3	0														3									
Amphenicols - Florfenicol	16	3	0														3									
Cephalosporins - Cefotaxime	0.5	3	1								2					1										
Fluoroquinolones - Ciprofloxacin	0.06	3	2						1		1		1													
Penicillins - Ampicillin	4	3	1											2					1							
Quinolones - Nalidixic acid	16	3	2													1				2						
Tetracyclines - Tetracycline	8	3	2												1					2						
Trimethoprim	2	3	1										2						1							
Cephalosporins - Ceftazidim	2	3	1										2					1								
Polymyxins - Colistin	2	3	0												3											
Sulfonamides - Sulfamethoxazole	256	3	1																	2					1	

Table Antimicrobial susceptibility testing of *S. Rissen* in Other products of animal origin - quantitative data [Dilution method]

S. Rissen Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Other products of animal origin	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Salmonella spp. in Meat from broilers (Gallus gallus) - carcase - spent hens - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Salmonella spp.	Meat from broilers (Gallus gallus) - carcase - spent hens - at slaughterhouse - Surveillance																										
	yes																										
	35																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Antimicrobials:																											
Aminoglycosides - Gentamicin	2	35	0								14	17	4														
Aminoglycosides - Kanamycin	8	35	0												34	1											
Aminoglycosides - Streptomycin	32	35	0											5	25	3	2										
Amphenicols - Chloramphenicol	16	35	0											2	19	14											
Amphenicols - Florfenicol	16	35	0											2	33												
Cephalosporins - Cefotaxime	0.5	35	0						23	12																	
Fluoroquinolones - Ciprofloxacin	0.06	35	0					35																			
Penicillins - Ampicillin	4	35	0									2	17	16													
Quinolones - Nalidixic acid	16	35	0												31	4											
Tetracyclines - Tetracycline	8	35	0										5	30													
Trimethoprim	2	35	0									33	2														
Cephalosporins - Ceftazidim	2	35	0								32	3															
Polymyxins - Colistin	2	35	16											19	16												
Sulfonamides - Sulfamethoxazole		35	35														2	26	6	1							

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Meat from broilers (*Gallus gallus*) - carcase - spent hens - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

Salmonella spp.	Meat from broilers (<i>Gallus gallus</i>) - carcase - spent hens - at slaughterhouse - Surveillance	
Isolates out of a monitoring program (yes/no)	yes	
Number of isolates available in the laboratory	35	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin		
Aminoglycosides - Kanamycin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Amphenicols - Florfenicol		
Cephalosporins - Cefotaxime		
Fluoroquinolones - Ciprofloxacin		
Penicillins - Ampicillin		
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Trimethoprim		
Cephalosporins - Ceftazidim		
Polymyxins - Colistin		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Meat from poultry, unspecified - meat products - raw but intended to be eaten cooked - chilled - at retail - Surveillance - Official sampling - food sample - meat - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from poultry, unspecified - meat products - raw but intended to be eaten cooked - chilled - at retail - Surveillance																											
	yes																											
	22																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	22	0								18	3	1															
Aminoglycosides - Kanamycin	8	22	1												21					1								
Aminoglycosides - Streptomycin	32	22	3											3	2	3	6	5	0	3								
Amphenicols - Chloramphenicol	16	22	1												7	12	2	0	1									
Amphenicols - Florfenicol	16	22	0												17	5												
Cephalosporins - Cefotaxime	0.5	22	3						9	9	1				3													
Fluoroquinolones - Ciprofloxacin	0.06	22	9						13		1	6	2															
Penicillins - Ampicillin	4	22	13										4	5				13										
Quinolones - Nalidixic acid	16	22	9												13				9									
Tetracyclines - Tetracycline	8	22	3										2	15	2				3									
Trimethoprim	2	22	11									11						11										
Cephalosporins - Ceftazidim	2	22	3								10	9				1	2											
Polymyxins - Colistin	2	22	6											16	6													
Sulfonamides - Sulfamethoxazole		22	22														3	8	2					9				

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Meat from poultry, unspecified - meat products - raw but intended to be eaten cooked - chilled - at retail - Surveillance - Official sampling - food sample - meat - quantitative data [Dilution method]

Salmonella spp.	Meat from poultry, unspecified - meat products - raw but intended to be eaten cooked - chilled - at retail - Surveillance	
Isolates out of a monitoring program (yes/no)	yes	
Number of isolates available in the laboratory	22	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin		
Aminoglycosides - Kanamycin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Amphenicols - Florfenicol		
Cephalosporins - Cefotaxime		
Fluoroquinolones - Ciprofloxacin		
Penicillins - Ampicillin		
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Trimethoprim		
Cephalosporins - Ceftazidim		
Polymyxins - Colistin		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of Salmonella spp. in Meat from pig - carcass - chilled - at slaughterhouse - Surveillance - Official sampling - food sample - carcass swabs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Salmonella spp.	Meat from pig - carcass - chilled - at slaughterhouse - Surveillance																										
	yes																										
	157																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Antimicrobials:																											
Aminoglycosides - Gentamicin	2	157	1										28	109	19	1											
Aminoglycosides - Kanamycin	8	157	3													152	2			3							
Aminoglycosides - Streptomycin	32	157	75													5	34	34	9	10	65						
Amphenicols - Chloramphenicol	16	157	16													17	115	9		16							
Amphenicols - Florfenicol	16	157	6													97	41	13	3	3							
Cephalosporins - Cefotaxime	0.5	157	3							78	66	10				3											
Fluoroquinolones - Ciprofloxacin	0.06	157	2						138	17		1	1														
Penicillins - Ampicillin	4	157	82											52	22	1	1	0	81								
Quinolones - Nalidixic acid	16	157	2													134	20	1		2							
Tetracyclines - Tetracycline	8	157	64											8	78	3	4	1	6	57							
Trimethoprim	2	157	40										115	2					40								
Cephalosporins - Ceftazidim	2	157	3									89	65				1	2									
Polymyxins - Colistin	2	157	7												150	7											
Sulfonamides - Sulfamethoxazole		157	157														1	6	38	21	4	2				85	

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Meat from pig - carcase - chilled - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

Salmonella spp.	Meat from pig - carcase - chilled - at slaughterhouse - Surveillance	
Isolates out of a monitoring program (yes/no)	yes	
Number of isolates available in the laboratory	157	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin		
Aminoglycosides - Kanamycin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Amphenicols - Florfenicol		
Cephalosporins - Cefotaxime		
Fluoroquinolones - Ciprofloxacin		
Penicillins - Ampicillin		
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Trimethoprim		
Cephalosporins - Ceftazidim		
Polymyxins - Colistin		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Meat from broilers (*Gallus gallus*) - carcass - spent hens - Surveillance - Official sampling - food sample - carcass swabs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Enteritidis	Meat from broilers (Gallus gallus) - carcass - spent hens - Surveillance																											
	yes																											
	31																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	31	0								13	15	3															
Aminoglycosides - Kanamycin	8	31	0												31													
Aminoglycosides - Streptomycin	32	31	0											4	25	2												
Amphenicols - Chloramphenicol	16	31	0											2	15	14												
Amphenicols - Florfenicol	16	31	0											2	29													
Cephalosporins - Cefotaxime	0.5	31	0						20	11																		
Fluoroquinolones - Ciprofloxacin	0.06	31	0					31																				
Penicillins - Ampicillin	4	31	0									2	15	14														
Quinolones - Nalidixic acid	16	31	0												28	3												
Tetracyclines - Tetracycline	8	31	0										4	27														
Trimethoprim	2	31	0									29	2															
Cephalosporins - Ceftazidim	2	31	0								30	1																
Polymyxins - Colistin	2	31	15											16	15													
Sulfonamides - Sulfamethoxazole		31	31										1	23	6	1												

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Meat from broilers (*Gallus gallus*) - carcase - spent hens - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - carcase - spent hens - Surveillance	
	yes	
	31	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin		
Aminoglycosides - Kanamycin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Amphenicols - Florfenicol		
Cephalosporins - Cefotaxime		
Fluoroquinolones - Ciprofloxacin		
Penicillins - Ampicillin		
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Trimethoprim		
Cephalosporins - Ceftazidim		
Polymyxins - Colistin		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of *S. Paratyphi* B in Meat from broilers (*Gallus gallus*) - carcase - chilled - at slaughterhouse - Surveillance - Official sampling - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Paratyphi B	Meat from broilers (Gallus gallus) - carcase - chilled - at slaughterhouse - Surveillance																										
	yes																										
	9																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Antimicrobials:																											
Aminoglycosides - Gentamicin	2	9	0								8	1															
Aminoglycosides - Kanamycin	8	9	0												9												
Aminoglycosides - Streptomycin	32	9	2														2	5	2								
Amphenicols - Chloramphenicol	16	9	0												5	4											
Amphenicols - Florfenicol	16	9	0												9												
Cephalosporins - Cefotaxime	0.5	9	0							9																	
Fluoroquinolones - Ciprofloxacin	0.06	9	6						2	1		6															
Penicillins - Ampicillin	4	9	7										2					7									
Quinolones - Nalidixic acid	16	9	6												3				6								
Tetracyclines - Tetracycline	8	9	0										2	7													
Trimethoprim	2	9	9															9									
Cephalosporins - Ceftazidim	2	9	9								3	6															
Polymyxins - Colistin	2	9	9											8	1												
Sulfonamides - Sulfamethoxazole		9	9														3	3	1					2			

Table Antimicrobial susceptibility testing of *S. Paratyphi B* in Meat from broilers (*Gallus gallus*) - carcase - chilled - at slaughterhouse -
Surveillance - Official sampling - quantitative data [Dilution method]

S. Paratyphi B Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - carcase - chilled - at slaughterhouse - Surveillance	
	yes	
	9	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin		
Aminoglycosides - Kanamycin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Amphenicols - Florfenicol		
Cephalosporins - Cefotaxime		
Fluoroquinolones - Ciprofloxacin		
Penicillins - Ampicillin		
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Trimethoprim		
Cephalosporins - Ceftazidim		
Polymyxins - Colistin		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Meat from pig - carcase - chilled - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:		Meat from pig - carcase - chilled - at slaughterhouse - Surveillance																											
		yes																											
		105																											
		Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	105	0								21	73	11																
Aminoglycosides - Kanamycin	8	105	3												101	1				3									
Aminoglycosides - Streptomycin	32	105	69												1	22	10	3	9	60									
Amphenicols - Chloramphenicol	16	105	14												10	75	6		14										
Amphenicols - Florfenicol	16	105	6												70	20	9	3	3										
Cephalosporins - Cefotaxime	0.5	105	1						63	37	4				1														
Fluoroquinolones - Ciprofloxacin	0.06	105	1						91	13	1																		
Penicillins - Ampicillin	4	105	77										18	10				77											
Quinolones - Nalidixic acid	16	105	1												87	16	1	0	1										
Tetracyclines - Tetracycline	8	105	55										2	44	1	3	1	5	49										
Trimethoprim	2	105	35									68	2					35											
Cephalosporins - Ceftazidim	2	105	1								73	31					1												
Polymyxins - Colistin	2	105	2											103	2														
Sulfonamides - Sulfamethoxazole		105	105													1	4	19	4	3	1				73				

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Meat from pig - carcase - chilled - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from pig - carcase - chilled - at slaughterhouse - Surveillance	
	yes	
	105	
	lowest	highest
Aminoglycosides - Gentamicin		
Aminoglycosides - Kanamycin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Amphenicols - Florfenicol		
Cephalosporins - Cefotaxime		
Fluoroquinolones - Ciprofloxacin		
Penicillins - Ampicillin		
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Trimethoprim		
Cephalosporins - Ceftazidim		
Polymyxins - Colistin		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of S. Tennessee in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Tennessee	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	0										2														
Aminoglycosides - Kanamycin	8	2	0													2											
Aminoglycosides - Streptomycin	32	2	1															1			1						
Amphenicols - Chloramphenicol	16	2	0														2										
Amphenicols - Florfenicol	16	2	0														1	1									
Cephalosporins - Cefotaxime	0.5	2	0							1	1																
Fluoroquinolones - Ciprofloxacin	0.06	2	0				1		1																		
Penicillins - Ampicillin	4	2	1											1					1								
Quinolones - Nalidixic acid	16	2	0													2											
Tetracyclines - Tetracycline	8	2	1												1					1							
Trimethoprim	2	2	1										1						1								
Cephalosporins - Ceftazidim	2	2	0									1	1														
Polymyxins - Colistin	2	2	0												2												
Sulfonamides - Sulfamethoxazole	256	2	1																	1					1		

Table Antimicrobial susceptibility testing of *S. Tennessee* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Tennessee Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Yoruba in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Yoruba	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0														1										
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																		1						

Table Antimicrobial susceptibility testing of *S. Yoruba* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Yoruba Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Hessarek in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Hessarek	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	0										3														
Aminoglycosides - Kanamycin	8	3	0													3											
Aminoglycosides - Streptomycin	32	3	0													3											
Amphenicols - Chloramphenicol	16	3	0													1	2										
Amphenicols - Florfenicol	16	3	0													3											
Cephalosporins - Cefotaxime	0.5	3	0							3																	
Fluoroquinolones - Ciprofloxacin	0.06	3	0						3																		
Penicillins - Ampicillin	4	3	0											3													
Quinolones - Nalidixic acid	16	3	0													3											
Tetracyclines - Tetracycline	8	3	0												3												
Trimethoprim	2	3	0										3														
Cephalosporins - Ceftazidim	2	3	0									3															
Polymyxins - Colistin	2	3	0												3												
Sulfonamides - Sulfamethoxazole	256	3	0																3								

Table Antimicrobial susceptibility testing of *S. Hessarek* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Hessarek Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Brandenburg in Poultry, unspecified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Brandenburg	Poultry, unspecified																									
	Poultry, unspecified																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Kanamycin	8	1	0													1										
Aminoglycosides - Streptomycin	32	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Amphenicols - Florfenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0										1													
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																	
Penicillins - Ampicillin	4	1	0												1											
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Polymyxins - Colistin	2	1	0												1											
Sulfonamides - Sulfamethoxazole	256	1	0																		1					

Table Antimicrobial susceptibility testing of *S. Brandenburg* in Poultry, unspecified - quantitative data [Dilution method]

S. Brandenburg Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Poultry, unspecified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,12:- in Turkeys - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,12:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Turkeys																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Kanamycin	8	1	0													1										
Aminoglycosides - Streptomycin	32	1	0																1							
Amphenicols - Chloramphenicol	16	1	0														1									
Amphenicols - Florfenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.06	1	1										1													
Penicillins - Ampicillin	4	1	0											1												
Quinolones - Nalidixic acid	16	1	1																	1						
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	1																1							
Cephalosporins - Ceftazidim	2	1	0										1													
Polymyxins - Colistin	2	1	0												1											
Sulfonamides - Sulfamethoxazole	256	1	0																	1						

Table Antimicrobial susceptibility testing of S. 4,12:-:- in Turkeys - quantitative data [Dilution method]

S. 4,12:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Turkeys	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 6,7:-:- in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 6,7:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl)																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Kanamycin	8	2	0													2										
Aminoglycosides - Streptomycin	32	2	0														1	1								
Amphenicols - Chloramphenicol	16	2	0														2									
Amphenicols - Florfenicol	16	2	0														2									
Cephalosporins - Cefotaxime	0.5	2	0							1	1															
Fluoroquinolones - Ciprofloxacin	0.06	2	0				1		1																	
Penicillins - Ampicillin	4	2	0											2												
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0										2													
Polymyxins - Colistin	2	2	1												1	1										
Sulfonamides - Sulfamethoxazole	256	2	0																		1	1				

Table Antimicrobial susceptibility testing of S. 6,7:-:- in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 6,7:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Dublin in Pigeons - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Dublin	Pigeons																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	1																	1							
Amphenicols - Chloramphenicol	16	1	1																	1							
Amphenicols - Florfenicol	16	1	0														1										
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	1										1														
Penicillins - Ampicillin	4	1	0												1												
Quinolones - Nalidixic acid	16	1	1																	1							
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0										1														
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	1																						1		

Table Antimicrobial susceptibility testing of *S. Dublin* in Pigeons - quantitative data [Dilution method]

S. Dublin Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Pigeons	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Canary - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Canary																										
Isolates out of a monitoring program (yes/no)																											
Number of isolates available in the laboratory	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	1																		1						
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0														1										
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0							1																	
Penicillins - Ampicillin	4	1	0												1												
Quinolones - Nalidixic acid	16	1	0														1										
Tetracyclines - Tetracycline	8	1	1																	1							
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	1																						1		

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Canary - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Canary	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Pigs - breeding animals - raised under controlled housing conditions -
quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	75	2									3	59	10	1			2										
Aminoglycosides - Kanamycin	8	75	7													68			2		5							
Aminoglycosides - Streptomycin	32	75	52														16	6	1	5	47							
Amphenicols - Chloramphenicol	16	75	15													10	43	7		15								
Amphenicols - Florfenicol	16	75	9													53	8	5	5	4								
Cephalosporins - Cefotaxime	0.5	75	8							44	16	7			1	7												
Fluoroquinolones - Ciprofloxacin	0.06	75	15				9		44	7	5	6		2			2											
Penicillins - Ampicillin	4	75	61											8	6				61									
Quinolones - Nalidixic acid	16	75	10													52	10	3	1	9								
Tetracyclines - Tetracycline	8	75	50												21	3	1		2	48								
Trimethoprim	2	75	32										43			1	1		30									
Cephalosporins - Ceftazidim	2	75	8									50	16		1	1	2	5										
Polymyxins - Colistin	2	75	6												69	6												
Sulfonamides - Sulfamethoxazole	256	75	56															1	7	10	1		2		54			

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Pigs - breeding animals - raised under controlled housing conditions -
quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	47	1									1	32	13			1										
Aminoglycosides - Kanamycin	8	47	1													46		1									
Aminoglycosides - Streptomycin	32	47	28														5	12	2	2	26						
Amphenicols - Chloramphenicol	16	47	7													12	27	1		7							
Amphenicols - Florfenicol	16	47	8													36	3		6	2							
Cephalosporins - Cefotaxime	0.5	47	5							27	10	4	1		1	4											
Fluoroquinolones - Ciprofloxacin	0.06	47	12				4		28	3	3	7	2														
Penicillins - Ampicillin	4	47	30											10	6	1			30								
Quinolones - Nalidixic acid	16	47	11													30	2	4	1	10							
Tetracyclines - Tetracycline	8	47	25												21	1		1	5	19							
Trimethoprim	2	47	22										23	1	1	1			21								
Cephalosporins - Ceftazidim	2	47	7									30	9	1			3	4									
Polymyxins - Colistin	2	47	1												46	1											
Sulfonamides - Sulfamethoxazole	256	47	32														1	1	8	4	1		1		31		

Table Antimicrobial susceptibility testing of *S. Typhimurium* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4:i:- in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl)																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										1	1												
Aminoglycosides - Kanamycin	8	2	0													2										
Aminoglycosides - Streptomycin	32	2	2																		2					
Amphenicols - Chloramphenicol	16	2	0														1	1								
Amphenicols - Florfenicol	16	2	0														1	1								
Cephalosporins - Cefotaxime	0.5	2	0							1			1													
Fluoroquinolones - Ciprofloxacin	0.06	2	0						1	1																
Penicillins - Ampicillin	4	2	2																2							
Quinolones - Nalidixic acid	16	2	0													1		1								
Tetracyclines - Tetracycline	8	2	1													1				1						
Trimethoprim	2	2	1										1						1							
Cephalosporins - Ceftazidim	2	2	0									1	1													
Polymyxins - Colistin	2	2	1												1	1										
Sulfonamides - Sulfamethoxazole	256	2	2																						2	

Table Antimicrobial susceptibility testing of S. 4:i:- in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 4:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Give in Pigs - breeding animals - raised under controlled housing conditions - quantitative data
[Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Give	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0														1											
Amphenicols - Chloramphenicol	16	1	0													1												
Amphenicols - Florfenicol	16	1	0													1												
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																					
Penicillins - Ampicillin	4	1	0											1														
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	0											1														
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0									1																
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	0																		1							

Table Antimicrobial susceptibility testing of S. Give in Pigs - breeding animals - raised under controlled housing conditions - quantitative data
[Dilution method]

S. Give	Pigs - breeding animals - raised under controlled housing conditions	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Havana in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Havana	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	0										3														
Aminoglycosides - Kanamycin	8	3	0													3											
Aminoglycosides - Streptomycin	32	3	1													1	1				1						
Amphenicols - Chloramphenicol	16	3	0														3										
Amphenicols - Florfenicol	16	3	0													1	2										
Cephalosporins - Cefotaxime	0.5	3	0							1	2																
Fluoroquinolones - Ciprofloxacin	0.06	3	0				1		2																		
Penicillins - Ampicillin	4	3	1													2			1								
Quinolones - Nalidixic acid	16	3	0													3											
Tetracyclines - Tetracycline	8	3	2												1			1		1							
Trimethoprim	2	3	1										1	1					1								
Cephalosporins - Ceftazidim	2	3	0									3															
Polymyxins - Colistin	2	3	0												3												
Sulfonamides - Sulfamethoxazole	256	3	1																		1	1			1		

Table Antimicrobial susceptibility testing of *S. Havana* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Havana Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Anatum in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Anatum	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
Antimicrobials:	Number of isolates available in the laboratory	unknown																									
		Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin		2	6	0										6													
Aminoglycosides - Kanamycin		8	6	0													6										
Aminoglycosides - Streptomycin		32	6	2														2	2			2					
Amphenicols - Chloramphenicol		16	6	1													1	4		1							
Amphenicols - Florfenicol		16	6	0													5	1									
Cephalosporins - Cefotaxime		0.5	6	0							2	4															
Fluoroquinolones - Ciprofloxacin		0.06	6	0				4		2																	
Penicillins - Ampicillin		4	6	2											2	1	1			2							
Quinolones - Nalidixic acid		16	6	0													6										
Tetracyclines - Tetracycline		8	6	1												5					1						
Trimethoprim		2	6	2										3	1					2							
Cephalosporins - Ceftazidim		2	6	0									3	3													
Polymyxins - Colistin		2	6	0												6											
Sulfonamides - Sulfamethoxazole		256	6	3															1	1		1				3	

Table Antimicrobial susceptibility testing of *S. Anatum* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Anatum Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Idikan in Solipeds, domestic - horses - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Idikan	Solipeds, domestic - horses																									
	Solipeds, domestic - horses																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Kanamycin	8	1	0													1										
Aminoglycosides - Streptomycin	32	1	0															1								
Amphenicols - Chloramphenicol	16	1	0														1									
Amphenicols - Florfenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0									1														
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																	
Penicillins - Ampicillin	4	1	0												1											
Quinolones - Nalidixic acid	16	1	0														1									
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Polymyxins - Colistin	2	1	0												1											
Sulfonamides - Sulfamethoxazole	256	1	0																	1						

Table Antimicrobial susceptibility testing of *S. Idikan* in Solipeds, domestic - horses - quantitative data [Dilution method]

S. Idikan Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Solipeds, domestic - horses	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Jerusalem in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Jerusalem	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0															1										
Amphenicols - Chloramphenicol	16	1	0														1											
Amphenicols - Florfenicol	16	1	0														1											
Cephalosporins - Cefotaxime	0.5	1	0								1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																					
Penicillins - Ampicillin	4	1	0											1														
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	0												1													
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0										1															
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	1																							1		

Table Antimicrobial susceptibility testing of *S. Jerusalem* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. Jerusalem Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Braenderup in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Braenderup	Gallus gallus (fowl)																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	7	0										7													
Aminoglycosides - Kanamycin	8	7	0													7										
Aminoglycosides - Streptomycin	32	7	2														4	1			2					
Amphenicols - Chloramphenicol	16	7	1													1	5			1						
Amphenicols - Florfenicol	16	7	1													4	2			1						
Cephalosporins - Cefotaxime	0.5	7	0							6	1															
Fluoroquinolones - Ciprofloxacin	0.06	7	0				2		4	1																
Penicillins - Ampicillin	4	7	2											5					2							
Quinolones - Nalidixic acid	16	7	0													7										
Tetracyclines - Tetracycline	8	7	1												5	1			1							
Trimethoprim	2	7	0										7													
Cephalosporins - Ceftazidim	2	7	0									7														
Polymyxins - Colistin	2	7	0												7											
Sulfonamides - Sulfamethoxazole	256	7	2																	4	1				2	

Table Antimicrobial susceptibility testing of *S. Braenderup* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Braenderup Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Cerro in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Cerro	Gallus gallus (fowl)																									
	Gallus gallus (fowl)																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	4	0										2	2												
Aminoglycosides - Kanamycin	8	4	0													3	1									
Aminoglycosides - Streptomycin	32	4	1													1	2				1					
Amphenicols - Chloramphenicol	16	4	0													1	3									
Amphenicols - Florfenicol	16	4	0													4										
Cephalosporins - Cefotaxime	0.5	4	1							1	1	1				1										
Fluoroquinolones - Ciprofloxacin	0.06	4	2						2		2															
Penicillins - Ampicillin	4	4	2											1		1	1		1							
Quinolones - Nalidixic acid	16	4	1													3				1						
Tetracyclines - Tetracycline	8	4	2											1	1				1	1						
Trimethoprim	2	4	0										4													
Cephalosporins - Ceftazidim	2	4	1										3				1									
Polymyxins - Colistin	2	4	2												2	2										
Sulfonamides - Sulfamethoxazole	256	4	2																		2	1			1	

Table Antimicrobial susceptibility testing of *S. Cerro* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Cerro Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Llandoff in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Llandoff	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0														1										
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0										1														
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																		1						

Table Antimicrobial susceptibility testing of *S. Llandoff* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Llandoff Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Mbandaka in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Mbandaka	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	9	0										7	1	1													
Aminoglycosides - Kanamycin	8	9	0													9												
Aminoglycosides - Streptomycin	32	9	1														8				1							
Amphenicols - Chloramphenicol	16	9	0														9											
Amphenicols - Florfenicol	16	9	0													2	7											
Cephalosporins - Cefotaxime	0.5	9	0							1	6	2																
Fluoroquinolones - Ciprofloxacin	0.06	9	0				4		5																			
Penicillins - Ampicillin	4	9	0											7	1	1												
Quinolones - Nalidixic acid	16	9	0													9												
Tetracyclines - Tetracycline	8	9	1												8					1								
Trimethoprim	2	9	1										7		1				1									
Cephalosporins - Ceftazidim	2	9	0										9															
Polymyxins - Colistin	2	9	2												7	2												
Sulfonamides - Sulfamethoxazole	256	9	1																	2	3	3				1		

Table Antimicrobial susceptibility testing of *S. Mbandaka* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. Mbandaka Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Minnesota in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Minnesota	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	1																		1							
Amphenicols - Chloramphenicol	16	1	0														1											
Amphenicols - Florfenicol	16	1	0														1											
Cephalosporins - Cefotaxime	0.5	1	0								1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																			
Penicillins - Ampicillin	4	1	1																1									
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	1																1									
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0										1															
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	1																							1		

Table Antimicrobial susceptibility testing of *S. Minnesota* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. Minnesota Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Kentucky in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Kentucky	Gallus gallus (fowl)																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	4	3										1					1	2							
Aminoglycosides - Kanamycin	8	4	1													3					1					
Aminoglycosides - Streptomycin	32	4	3														1				3					
Amphenicols - Chloramphenicol	16	4	1													2	1			1						
Amphenicols - Florfenicol	16	4	1													3				1						
Cephalosporins - Cefotaxime	0.5	4	0							1	2	1														
Fluoroquinolones - Ciprofloxacin	0.06	4	3						1								3									
Penicillins - Ampicillin	4	4	3											1					3							
Quinolones - Nalidixic acid	16	4	3													1				3						
Tetracyclines - Tetracycline	8	4	3											1						3						
Trimethoprim	2	4	1										2	1					1							
Cephalosporins - Ceftazidim	2	4	0									1	2	1												
Polymyxins - Colistin	2	4	2												2	2										
Sulfonamides - Sulfamethoxazole	256	4	4																			1			3	

Table Antimicrobial susceptibility testing of *S. Kentucky* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Kentucky Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Newport in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Newport	Gallus gallus (fowl)																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Kanamycin	8	1	0														1									
Aminoglycosides - Streptomycin	32	1	1																		1					
Amphenicols - Chloramphenicol	16	1	0														1									
Amphenicols - Florfenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	1													1										
Fluoroquinolones - Ciprofloxacin	0.06	1	1											1												
Penicillins - Ampicillin	4	1	1																1							
Quinolones - Nalidixic acid	16	1	1																	1						
Tetracyclines - Tetracycline	8	1	0													1										
Trimethoprim	2	1	1																1							
Cephalosporins - Ceftazidim	2	1	1															1								
Polymyxins - Colistin	2	1	0												1											
Sulfonamides - Sulfamethoxazole	256	1	1																						1	

Table Antimicrobial susceptibility testing of *S. Newport* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Newport Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Not typeable in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Not typeable	Gallus gallus (fowl)																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	10	1									6	3				1									
Aminoglycosides - Kanamycin	8	10	3													7			1		2					
Aminoglycosides - Streptomycin	32	10	3													1	2	1	3		3					
Amphenicols - Chloramphenicol	16	10	0													3	5	2								
Amphenicols - Florfenicol	16	10	0													7	3									
Cephalosporins - Cefotaxime	0.5	10	4							1	3	2				4										
Fluoroquinolones - Ciprofloxacin	0.06	10	7				1		2				6				1									
Penicillins - Ampicillin	4	10	4											2	3	1			4							
Quinolones - Nalidixic acid	16	10	8													2			1	7						
Tetracyclines - Tetracycline	8	10	2											1	4	3		1		1						
Trimethoprim	2	10	7										3						7							
Cephalosporins - Ceftazidim	2	10	4									2	4					4								
Polymyxins - Colistin	2	10	1												9	1										
Sulfonamides - Sulfamethoxazole	256	10	4															1	2	3					4	

Table Antimicrobial susceptibility testing of Not typeable in Gallus gallus (fowl) - quantitative data [Dilution method]

Not typeable Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Agona in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Agona	Gallus gallus (fowl)																									
	Gallus gallus (fowl)																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	12	0									2	10													
Aminoglycosides - Kanamycin	8	12	0													11	1									
Aminoglycosides - Streptomycin	32	12	2												1		9			1	1					
Amphenicols - Chloramphenicol	16	12	0													1	11									
Amphenicols - Florfenicol	16	12	0													5	7									
Cephalosporins - Cefotaxime	0.5	12	1							3	8					1										
Fluoroquinolones - Ciprofloxacin	0.06	12	1				5		6			1														
Penicillins - Ampicillin	4	12	2											8	2				2							
Quinolones - Nalidixic acid	16	12	1													10	1			1						
Tetracyclines - Tetracycline	8	12	1											4	7					1						
Trimethoprim	2	12	2										10						2							
Cephalosporins - Ceftazidim	2	12	1									2	9					1								
Polymyxins - Colistin	2	12	0												12											
Sulfonamides - Sulfamethoxazole	256	12	2															2		4	3	1			2	

Table Antimicrobial susceptibility testing of *S. Agona* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Agona Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Kottbus in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Kottbus	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	24	0									2	20	2													
Aminoglycosides - Kanamycin	8	24	0													24											
Aminoglycosides - Streptomycin	32	24	4													6	13		1		4						
Amphenicols - Chloramphenicol	16	24	0													19	5										
Amphenicols - Florfenicol	16	24	0													22	2										
Cephalosporins - Cefotaxime	0.5	24	2							18	3		1			2											
Fluoroquinolones - Ciprofloxacin	0.06	24	3				14		5	2		1	1	1													
Penicillins - Ampicillin	4	24	4											13	6	1			4								
Quinolones - Nalidixic acid	16	24	2													20	1	1	1	1							
Tetracyclines - Tetracycline	8	24	3											16	3	1	1		1	2							
Trimethoprim	2	24	3										21			1			2								
Cephalosporins - Ceftazidim	2	24	3									21					1	2									
Polymyxins - Colistin	2	24	4												20	4											
Sulfonamides - Sulfamethoxazole	256	24	4																7	12	1				4		

Table Antimicrobial susceptibility testing of *S. Kottbus* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Kottbus Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,12:i:- in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions																											
	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	21	2										16	3			1	1										
Aminoglycosides - Kanamycin	8	21	2													18	1				2							
Aminoglycosides - Streptomycin	32	21	19														1		1		19							
Amphenicols - Chloramphenicol	16	21	6													2	12	1	1	5								
Amphenicols - Florfenicol	16	21	1													15	4	1		1								
Cephalosporins - Cefotaxime	0.5	21	6							9	2	4		1		5												
Fluoroquinolones - Ciprofloxacin	0.06	21	9				3		8	1	1	3	3				2											
Penicillins - Ampicillin	4	21	20											1					20									
Quinolones - Nalidixic acid	16	21	8													11	2			8								
Tetracyclines - Tetracycline	8	21	20											1						20								
Trimethoprim	2	21	16										4		1				16									
Cephalosporins - Ceftazidim	2	21	4									12	4	1		2	2											
Polymyxins - Colistin	2	21	6												15	6												
Sulfonamides - Sulfamethoxazole	256	21	20																1							20		

Table Antimicrobial susceptibility testing of S. 4,12:i:- in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. 4,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,5,12:i:- in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,5,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)																										
	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	1									1	1				1										
Aminoglycosides - Kanamycin	8	3	0												3												
Aminoglycosides - Streptomycin	32	3	1													1		1		1							
Amphenicols - Chloramphenicol	16	3	0													2	1										
Amphenicols - Florfenicol	16	3	0												1	2											
Cephalosporins - Cefotaxime	0.5	3	0						1	1	1																
Fluoroquinolones - Ciprofloxacin	0.06	3	1					1	1							1											
Penicillins - Ampicillin	4	3	1										1	1				1									
Quinolones - Nalidixic acid	16	3	1												1	1				1							
Tetracyclines - Tetracycline	8	3	2											1					2								
Trimethoprim	2	3	1									2						1									
Cephalosporins - Ceftazidim	2	3	0								1	2															
Polymyxins - Colistin	2	3	0											3													
Sulfonamides - Sulfamethoxazole	256	3	2															1							2		

Table Antimicrobial susceptibility testing of S. 4,5,12:i:- in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 4,5,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Other serovars in Ducks - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Other serovars	Ducks																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	0										1	1													
Aminoglycosides - Kanamycin	8	2	0													2											
Aminoglycosides - Streptomycin	32	2	1															1		1							
Amphenicols - Chloramphenicol	16	2	0														1	1									
Amphenicols - Florfenicol	16	2	0													1		1									
Cephalosporins - Cefotaxime	0.5	2	0							1	1																
Fluoroquinolones - Ciprofloxacin	0.06	2	1							1				1													
Penicillins - Ampicillin	4	2	0											1	1												
Quinolones - Nalidixic acid	16	2	1													1				1							
Tetracyclines - Tetracycline	8	2	0												1	1											
Trimethoprim	2	2	0										2														
Cephalosporins - Ceftazidim	2	2	0									1	1														
Polymyxins - Colistin	2	2	1												1	1											
Sulfonamides - Sulfamethoxazole	256	2	0															1	1								

Table Antimicrobial susceptibility testing of Other serovars in Ducks - quantitative data [Dilution method]

Other serovars Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Ducks	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Derby in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Derby	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	14	0										12	1	1													
Aminoglycosides - Kanamycin	8	14	0													14												
Aminoglycosides - Streptomycin	32	14	3														6	3	2		3							
Amphenicols - Chloramphenicol	16	14	1														13			1								
Amphenicols - Florfenicol	16	14	0													3	11											
Cephalosporins - Cefotaxime	0.5	14	1							2	11					1												
Fluoroquinolones - Ciprofloxacin	0.06	14	1				5		7	1		1																
Penicillins - Ampicillin	4	14	3											7	3	1			3									
Quinolones - Nalidixic acid	16	14	2													11		1	1	1								
Tetracyclines - Tetracycline	8	14	4											1	7	1	1			4								
Trimethoprim	2	14	4										8	2			1		3									
Cephalosporins - Ceftazidim	2	14	1									1	12				1											
Polymyxins - Colistin	2	14	0												14													
Sulfonamides - Sulfamethoxazole	256	14	7																1	2	2	2	1		6			

Table Antimicrobial susceptibility testing of *S. Derby* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. Derby Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Paratyphi B in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Paratyphi B	Gallus gallus (fowl)																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	148	3									76	66	3			3									
Aminoglycosides - Kanamycin	8	148	11													134	3		1		10					
Aminoglycosides - Streptomycin	32	148	51													3	3	4	87	11	40					
Amphenicols - Chloramphenicol	16	148	10												2	45	83	8	1	9						
Amphenicols - Florfenicol	16	148	3												16	96	29	4	1	2						
Cephalosporins - Cefotaxime	0.5	148	43							18	72	12	3	3	4	36										
Fluoroquinolones - Ciprofloxacin	0.06	148	137				2		8	1		50	71	15	1											
Penicillins - Ampicillin	4	148	111											28	7	2			111							
Quinolones - Nalidixic acid	16	148	137													11				137						
Tetracyclines - Tetracycline	8	148	39											22	75	12		3	8	28						
Trimethoprim	2	148	138										9		1				138							
Cephalosporins - Ceftazidim	2	148	38									44	58	4	4	3	9	26								
Polymyxins - Colistin	2	148	12												136	12										
Sulfonamides - Sulfamethoxazole	256	148	75														2	1	10	53	6	1	3		72	

Table Antimicrobial susceptibility testing of *S. Paratyphi B* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Paratyphi B Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Rissen in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Rissen	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	3	0										2	1														
Aminoglycosides - Kanamycin	8	3	0													3												
Aminoglycosides - Streptomycin	32	3	1														1		1	1								
Amphenicols - Chloramphenicol	16	3	1														2			1								
Amphenicols - Florfenicol	16	3	0														2	1										
Cephalosporins - Cefotaxime	0.5	3	0								3																	
Fluoroquinolones - Ciprofloxacin	0.06	3	0				1		2																			
Penicillins - Ampicillin	4	3	2												1				2									
Quinolones - Nalidixic acid	16	3	0													3												
Tetracyclines - Tetracycline	8	3	3																	3								
Trimethoprim	2	3	3																3									
Cephalosporins - Ceftazidim	2	3	0										3															
Polymyxins - Colistin	2	3	0												3													
Sulfonamides - Sulfamethoxazole	256	3	3																						3			

Table Antimicrobial susceptibility testing of *S. Rissen* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. Rissen Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Saintpaul in Geese - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Saintpaul	Geese																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0												1												
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0											1													
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																1								

Table Antimicrobial susceptibility testing of *S. Saintpaul* in Geese - quantitative data [Dilution method]

S. Saintpaul Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Geese	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Virchow in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Virchow	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0									1															
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	1																	1							
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1															
Penicillins - Ampicillin	4	1	1																1								
Quinolones - Nalidixic acid	16	1	1																	1							
Tetracyclines - Tetracycline	8	1	1																	1							
Trimethoprim	2	1	1																1								
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																1								

Table Antimicrobial susceptibility testing of *S. Virchow* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Virchow Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Brandenburg in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Brandenburg	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0											1														
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	0																1									
Amphenicols - Chloramphenicol	16	1	0														1											
Amphenicols - Florfenicol	16	1	0														1											
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	0							1																		
Penicillins - Ampicillin	4	1	0											1														
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	0												1													
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0									1																
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	0																		1							

Table Antimicrobial susceptibility testing of *S. Brandenburg* in Pigs - breeding animals - raised under controlled housing conditions -
quantitative data [Dilution method]

S. Brandenburg Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Montevideo in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Montevideo	Gallus gallus (fowl)																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	5	0										3	2												
Aminoglycosides - Kanamycin	8	5	0													5										
Aminoglycosides - Streptomycin	32	5	0														3	2								
Amphenicols - Chloramphenicol	16	5	0														5									
Amphenicols - Florfenicol	16	5	0													5										
Cephalosporins - Cefotaxime	0.5	5	0							4	1															
Fluoroquinolones - Ciprofloxacin	0.06	5	1						4			1														
Penicillins - Ampicillin	4	5	1											2	2				1							
Quinolones - Nalidixic acid	16	5	1													4				1						
Tetracyclines - Tetracycline	8	5	0												5											
Trimethoprim	2	5	1										4						1							
Cephalosporins - Ceftazidim	2	5	0									5														
Polymyxins - Colistin	2	5	0												5											
Sulfonamides - Sulfamethoxazole	256	5	0																	3	2					

Table Antimicrobial susceptibility testing of *S. Montevideo* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Montevideo Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 13,23:i:- in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 13,23:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	1																		1						
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0														1										
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	1										1														
Penicillins - Ampicillin	4	1	1																1								
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	1																	1							
Trimethoprim	2	1	1																1								
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	1													1											
Sulfonamides - Sulfamethoxazole	256	1	1																						1		

Table Antimicrobial susceptibility testing of S. 13,23:i:- in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 13,23:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,12:d:- in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,12:d:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0														1										
Cephalosporins - Cefotaxime	0.5	1	1													1											
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	1																1								
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	1																	1							
Trimethoprim	2	1	1																1								
Cephalosporins - Ceftazidim	2	1	1															1									
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	1																						1		

Table Antimicrobial susceptibility testing of S. 4,12:d:- in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 4,12:d:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Rabbits - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Rabbits																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	5	0										2	3													
Aminoglycosides - Kanamycin	8	5	0													5											
Aminoglycosides - Streptomycin	32	5	0														1	4									
Amphenicols - Chloramphenicol	16	5	0													1	3	1									
Amphenicols - Florfenicol	16	5	0													3	2										
Cephalosporins - Cefotaxime	0.5	5	0							3	1	1															
Fluoroquinolones - Ciprofloxacin	0.06	5	1						4		1																
Penicillins - Ampicillin	4	5	0											2	2	1											
Quinolones - Nalidixic acid	16	5	0													4	1										
Tetracyclines - Tetracycline	8	5	0												4		1										
Trimethoprim	2	5	0										5														
Cephalosporins - Ceftazidim	2	5	0									2	3														
Polymyxins - Colistin	2	5	0												5												
Sulfonamides - Sulfamethoxazole	256	5	0														1	3		1							

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Rabbits - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Rabbits	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Turkeys - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Turkeys																									
	Isolates out of a monitoring program (yes/no)	unknown																								
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0											1												
Aminoglycosides - Kanamycin	8	1	0													1										
Aminoglycosides - Streptomycin	32	1	0															1								
Amphenicols - Chloramphenicol	16	1	0														1									
Amphenicols - Florfenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																	
Penicillins - Ampicillin	4	1	1																1							
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Polymyxins - Colistin	2	1	0												1											
Sulfonamides - Sulfamethoxazole	256	1	0																	1						

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Turkey - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Turkey	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Enteritidis	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	81	2									14	60	5		1	1										
Aminoglycosides - Kanamycin	8	81	1													78	2				1						
Aminoglycosides - Streptomycin	32	81	11												6	48	8	6	2	4	7						
Amphenicols - Chloramphenicol	16	81	5												2	41	32	1	1	4							
Amphenicols - Florfenicol	16	81	0												3	67	7	4									
Cephalosporins - Cefotaxime	0.5	81	12							52	13	3	1			12											
Fluoroquinolones - Ciprofloxacin	0.06	81	14				15		52		3	4	1	5			1										
Penicillins - Ampicillin	4	81	19											12	45	5			19								
Quinolones - Nalidixic acid	16	81	13													63	4	1	1	12							
Tetracyclines - Tetracycline	8	81	9											14	53	4	1	2	2	5							
Trimethoprim	2	81	12										63	4	2	1			11								
Cephalosporins - Ceftazidim	2	81	12									58	11			1		11									
Polymyxins - Colistin	2	81	69												12	69											
Sulfonamides - Sulfamethoxazole	256	81	13																5	47	14	2				13	

Table Antimicrobial susceptibility testing of *S. Enteritidis* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Give in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Give	Gallus gallus (fowl)																										
Isolates out of a monitoring program (yes/no)																											
Number of isolates available in the laboratory	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	5	0										5														
Aminoglycosides - Kanamycin	8	5	0													5											
Aminoglycosides - Streptomycin	32	5	0														5										
Amphenicols - Chloramphenicol	16	5	0													2	3										
Amphenicols - Florfenicol	16	5	0													4	1										
Cephalosporins - Cefotaxime	0.5	5	0							5																	
Fluoroquinolones - Ciprofloxacin	0.06	5	0				1		4																		
Penicillins - Ampicillin	4	5	1											4				1									
Quinolones - Nalidixic acid	16	5	0													5											
Tetracyclines - Tetracycline	8	5	0											3	2												
Trimethoprim	2	5	0										5														
Cephalosporins - Ceftazidim	2	5	0									4	1														
Polymyxins - Colistin	2	5	0												5												
Sulfonamides - Sulfamethoxazole	256	5	0																1	2	1	1					

Table Antimicrobial susceptibility testing of *S. Give* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Give Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Livingstone in Pigs - breeding animals - raised under controlled housing conditions -
quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Livingstone	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	14	0										12	2														
Aminoglycosides - Kanamycin	8	14	0													14												
Aminoglycosides - Streptomycin	32	14	2														4	8		1	1							
Amphenicols - Chloramphenicol	16	14	1													2	9	2	1									
Amphenicols - Florfenicol	16	14	1													6	7		1									
Cephalosporins - Cefotaxime	0.5	14	3							5	6					3												
Fluoroquinolones - Ciprofloxacin	0.06	14	3				2		9		2				1													
Penicillins - Ampicillin	4	14	3											9	2				3									
Quinolones - Nalidixic acid	16	14	3													11			2	1								
Tetracyclines - Tetracycline	8	14	2												10		2			2								
Trimethoprim	2	14	3										10	1					3									
Cephalosporins - Ceftazidim	2	14	3									2	9					3										
Polymyxins - Colistin	2	14	0												14													
Sulfonamides - Sulfamethoxazole	256	14	2																1	9	2					2		

Table Antimicrobial susceptibility testing of *S. Livingstone* in Pigs - breeding animals - raised under controlled housing conditions -
quantitative data [Dilution method]

S. Livingstone Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Amsterdam in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Amsterdam	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	1																		1						
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	1													1											
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1															
Penicillins - Ampicillin	4	1	1																1								
Quinolones - Nalidixic acid	16	1	1																	1							
Tetracyclines - Tetracycline	8	1	1																1								
Trimethoprim	2	1	1																1								
Cephalosporins - Ceftazidim	2	1	1															1									
Polymyxins - Colistin	2	1	1													1											
Sulfonamides - Sulfamethoxazole	256	1	1																						1		

Table Antimicrobial susceptibility testing of *S. Amsterdam* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Amsterdam Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Idikan in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Idikan	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	0										2	1													
Aminoglycosides - Kanamycin	8	3	0													3											
Aminoglycosides - Streptomycin	32	3	0															2	1								
Amphenicols - Chloramphenicol	16	3	1														1	1	1								
Amphenicols - Florfenicol	16	3	0														3										
Cephalosporins - Cefotaxime	0.5	3	0							1	2																
Fluoroquinolones - Ciprofloxacin	0.06	3	1						2				1														
Penicillins - Ampicillin	4	3	2											1					2								
Quinolones - Nalidixic acid	16	3	1													2				1							
Tetracyclines - Tetracycline	8	3	1												2					1							
Trimethoprim	2	3	2										1						2								
Cephalosporins - Ceftazidim	2	3	0									2	1														
Polymyxins - Colistin	2	3	0												3												
Sulfonamides - Sulfamethoxazole	256	3	2																			1			2		

Table Antimicrobial susceptibility testing of *S. Idikan* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Idikan Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Jerusalem in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Jerusalem	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0													1											
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0														1										
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																				
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of *S. Jerusalem* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Jerusalem Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Bredeney in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Bredeney	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0															1									
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																				
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0											1													
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																1								

Table Antimicrobial susceptibility testing of *S. Bredeney* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Bredeney Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Agona in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Agona	Pigs - breeding animals - raised under controlled housing conditions																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0															1									
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																				
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0											1													
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0										1														
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of *S. Agona* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. Agona Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Kottbus in Ducks - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Kottbus	Ducks																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	1																		1						
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0							1																	
Penicillins - Ampicillin	4	1	1																1								
Quinolones - Nalidixic acid	16	1	0														1										
Tetracyclines - Tetracycline	8	1	0													1											
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	1																						1		

Table Antimicrobial susceptibility testing of *S. Kottbus* in Ducks - quantitative data [Dilution method]

S. Kottbus Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Ducks	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,5,12:i:- in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,5,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Pigs - breeding animals - raised under controlled housing conditions																											
	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	20	1								1	18					1											
Aminoglycosides - Kanamycin	8	20	2												17	1		1		1								
Aminoglycosides - Streptomycin	32	20	16													3	1			16								
Amphenicols - Chloramphenicol	16	20	0												4	16												
Amphenicols - Florfenicol	16	20	0												18	2												
Cephalosporins - Cefotaxime	0.5	20	2						15	3					2													
Fluoroquinolones - Ciprofloxacin	0.06	20	2					17	1			1				1												
Penicillins - Ampicillin	4	20	17										3					17										
Quinolones - Nalidixic acid	16	20	2												16	2			2									
Tetracyclines - Tetracycline	8	20	16											4					16									
Trimethoprim	2	20	6									14			1	1		4										
Cephalosporins - Ceftazidim	2	20	2								15	3					2											
Polymyxins - Colistin	2	20	2											18	2													
Sulfonamides - Sulfamethoxazole	256	20	16																2	2					16			

Table Antimicrobial susceptibility testing of S. 4,5,12:i:- in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. 4,5,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 9:-:- in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 9:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	0									2	1														
Aminoglycosides - Kanamycin	8	3	0													3											
Aminoglycosides - Streptomycin	32	3	0														1	2									
Amphenicols - Chloramphenicol	16	3	1													2				1							
Amphenicols - Florfenicol	16	3	0													2	1										
Cephalosporins - Cefotaxime	0.5	3	0							2	1																
Fluoroquinolones - Ciprofloxacin	0.06	3	0			2	1																				
Penicillins - Ampicillin	4	3	1											2					1								
Quinolones - Nalidixic acid	16	3	0													3											
Tetracyclines - Tetracycline	8	3	1											2						1							
Trimethoprim	2	3	1										2						1								
Cephalosporins - Ceftazidim	2	3	0									2	1														
Polymyxins - Colistin	2	3	0												3												
Sulfonamides - Sulfamethoxazole	256	3	1																		2				1		

Table Antimicrobial susceptibility testing of S. 9:-:- in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 9:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Paratyphi B in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Paratyphi B	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	2	0										2															
Aminoglycosides - Kanamycin	8	2	0													2												
Aminoglycosides - Streptomycin	32	2	1																1	1								
Amphenicols - Chloramphenicol	16	2	0														2											
Amphenicols - Florfenicol	16	2	0													2												
Cephalosporins - Cefotaxime	0.5	2	0								2																	
Fluoroquinolones - Ciprofloxacin	0.06	2	2									1		1														
Penicillins - Ampicillin	4	2	2																2									
Quinolones - Nalidixic acid	16	2	2																	2								
Tetracyclines - Tetracycline	8	2	0													1	1											
Trimethoprim	2	2	2																2									
Cephalosporins - Ceftazidim	2	2	0									1	1															
Polymyxins - Colistin	2	2	0												2													
Sulfonamides - Sulfamethoxazole	256	2	1																	1						1		

Table Antimicrobial susceptibility testing of *S. Paratyphi B* in Pigs - breeding animals - raised under controlled housing conditions -
quantitative data [Dilution method]

S. Paratyphi B Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 3,19:- in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 3,19:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	0										3														
Aminoglycosides - Kanamycin	8	3	1													2		1									
Aminoglycosides - Streptomycin	32	3	0														1	1	1								
Amphenicols - Chloramphenicol	16	3	0														3										
Amphenicols - Florfenicol	16	3	0													2	1										
Cephalosporins - Cefotaxime	0.5	3	1								2					1											
Fluoroquinolones - Ciprofloxacin	0.06	3	3								1		2														
Penicillins - Ampicillin	4	3	2											1				1	1								
Quinolones - Nalidixic acid	16	3	2															1		2							
Tetracyclines - Tetracycline	8	3	1												2					1							
Trimethoprim	2	3	1										2						1								
Cephalosporins - Ceftazidim	2	3	1									1	1					1									
Polymyxins - Colistin	2	3	0												3												
Sulfonamides - Sulfamethoxazole	256	3	1																	2						1	

Table Antimicrobial susceptibility testing of S. 3,19:-:- in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 3,19:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Thompson in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Thompson	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																				
Penicillins - Ampicillin	4	1	0												1												
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of *S. Thompson* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Thompson Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Sandiego in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Sandiego	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0													1											
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																				
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0											1													
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of *S. Sandiego* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Sandiego Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Worthington in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Worthington	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0														1										
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0										1														
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																1								

Table Antimicrobial susceptibility testing of *S. Worthington* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Worthington Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Infantis in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Infantis	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	28	3									3	21	1		2	1										
Aminoglycosides - Kanamycin	8	28	2													26		1	1								
Aminoglycosides - Streptomycin	32	28	2														19	4	3	1	1						
Amphenicols - Chloramphenicol	16	28	0													7	21										
Amphenicols - Florfenicol	16	28	0												1	17	10										
Cephalosporins - Cefotaxime	0.5	28	4							1	20	2	1			4											
Fluoroquinolones - Ciprofloxacin	0.06	28	5				14		9			1	4														
Penicillins - Ampicillin	4	28	6											14	7	1			6								
Quinolones - Nalidixic acid	16	28	5													23				5							
Tetracyclines - Tetracycline	8	28	2											9	15	2				2							
Trimethoprim	2	28	5										22	1					5								
Cephalosporins - Ceftazidim	2	28	4									2	22				1	3									
Polymyxins - Colistin	2	28	4												24	4											
Sulfonamides - Sulfamethoxazole	256	28	6																	13	7	2			6		

Table Antimicrobial susceptibility testing of *S. Infantis* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Infantis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,12:- in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,12:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)																										
	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0								1																
Aminoglycosides - Kanamycin	8	1	0												1												
Aminoglycosides - Streptomycin	32	1	0															1									
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0												1												
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1															
Penicillins - Ampicillin	4	1	0										1														
Quinolones - Nalidixic acid	16	1	1																1								
Tetracyclines - Tetracycline	8	1	0											1													
Trimethoprim	2	1	1															1									
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0											1													
Sulfonamides - Sulfamethoxazole	256	1	0																1								

Table Antimicrobial susceptibility testing of S. 4,12:-:- in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 4,12:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Poultry, unspecified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Poultry, unspecified																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0															1									
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	1								1																
Penicillins - Ampicillin	4	1	0												1												
Quinolones - Nalidixic acid	16	1	0															1									
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0															1									

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Poultry, unspecified - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Poultry, unspecified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Solipeds, domestic - horses - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Solipeds, domestic - horses																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	1																		1						
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	1																1								
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	1																	1							
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	1																						1		

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Solipeds, domestic - horses - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Solipeds, domestic - horses	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 6,7:d:- in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 6,7:d:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl)																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0											1												
Aminoglycosides - Kanamycin	8	1	0													1										
Aminoglycosides - Streptomycin	32	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Amphenicols - Florfenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																	
Penicillins - Ampicillin	4	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Polymyxins - Colistin	2	1	0												1											
Sulfonamides - Sulfamethoxazole	256	1	0																	1						

Table Antimicrobial susceptibility testing of S. 6,7:d:- in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 6,7:d:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4:i:- in Pigs - breeding animals - raised under controlled housing conditions - quantitative data
[Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Pigs - breeding animals - raised under controlled housing conditions																											
	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	8	0									6	2															
Aminoglycosides - Kanamycin	8	8	0												8													
Aminoglycosides - Streptomycin	32	8	5													1	2			5								
Amphenicols - Chloramphenicol	16	8	0												2	4	2											
Amphenicols - Florfenicol	16	8	0												6		2											
Cephalosporins - Cefotaxime	0.5	8	0						1	5		2																
Fluoroquinolones - Ciprofloxacin	0.06	8	4				1		3	2		2																
Penicillins - Ampicillin	4	8	6										1	1				6										
Quinolones - Nalidixic acid	16	8	2												4	1	1		2									
Tetracyclines - Tetracycline	8	8	5											3					5									
Trimethoprim	2	8	7									1						7										
Cephalosporins - Ceftazidim	2	8	0								5	2		1														
Polymyxins - Colistin	2	8	1											7	1													
Sulfonamides - Sulfamethoxazole	256	8	5															1		2					5			

Table Antimicrobial susceptibility testing of S. 4:i:- in Pigs - breeding animals - raised under controlled housing conditions - quantitative data
[Dilution method]

S. 4:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Enteritidis	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	2	0										2															
Aminoglycosides - Kanamycin	8	2	0													2												
Aminoglycosides - Streptomycin	32	2	2																	1	1							
Amphenicols - Chloramphenicol	16	2	0														1	1										
Amphenicols - Florfenicol	16	2	0														2											
Cephalosporins - Cefotaxime	0.5	2	0								1	1																
Fluoroquinolones - Ciprofloxacin	0.06	2	2									1		1														
Penicillins - Ampicillin	4	2	0												2													
Quinolones - Nalidixic acid	16	2	1													1			1									
Tetracyclines - Tetracycline	8	2	2															1		1								
Trimethoprim	2	2	0										2															
Cephalosporins - Ceftazidim	2	2	0										2															
Polymyxins - Colistin	2	2	2													2												
Sulfonamides - Sulfamethoxazole	256	2	0																	1	1							

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Gloucester in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Gloucester	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	1																		1							
Amphenicols - Chloramphenicol	16	1	0													1												
Amphenicols - Florfenicol	16	1	0													1												
Cephalosporins - Cefotaxime	0.5	1	0							1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																			
Penicillins - Ampicillin	4	1	1																1									
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	1																	1								
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidim	2	1	0									1																
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	1																						1			

Table Antimicrobial susceptibility testing of *S. Gloucester* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. Gloucester Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Lexington in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Lexington	Gallus gallus (fowl)																										
Isolates out of a monitoring program (yes/no)																											
Number of isolates available in the laboratory	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	6	0										4	2													
Aminoglycosides - Kanamycin	8	6	0													6											
Aminoglycosides - Streptomycin	32	6	3															2	1	1	2						
Amphenicols - Chloramphenicol	16	6	0														6										
Amphenicols - Florfenicol	16	6	0													1	5										
Cephalosporins - Cefotaxime	0.5	6	3								1	1	1		1	2											
Fluoroquinolones - Ciprofloxacin	0.06	6	6									5	1														
Penicillins - Ampicillin	4	6	6																6								
Quinolones - Nalidixic acid	16	6	6																	6							
Tetracyclines - Tetracycline	8	6	4												1	1		1	1	2							
Trimethoprim	2	6	6																6								
Cephalosporins - Ceftazidim	2	6	2									2		2			1	1									
Polymyxins - Colistin	2	6	3												3	3											
Sulfonamides - Sulfamethoxazole	256	6	5																	1					5		

Table Antimicrobial susceptibility testing of *S. Lexington* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Lexington Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Livingstone in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Livingstone	Gallus gallus (fowl)																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	30	4										21	5			2	1	1							
Aminoglycosides - Kanamycin	8	30	4													26				2	2					
Aminoglycosides - Streptomycin	32	30	7													4	4	14	1	3	4					
Amphenicols - Chloramphenicol	16	30	1														28	1		1						
Amphenicols - Florfenicol	16	30	0													16	14									
Cephalosporins - Cefotaxime	0.5	30	8							12	9	1		2		6										
Fluoroquinolones - Ciprofloxacin	0.06	30	7				8		14	1	1	4			1		1									
Penicillins - Ampicillin	4	30	6											16	6	2	1	1	4							
Quinolones - Nalidixic acid	16	30	5													22		3	1	4						
Tetracyclines - Tetracycline	8	30	7											2	21				1	6						
Trimethoprim	2	30	8										22				2		6							
Cephalosporins - Ceftazidim	2	30	8									10	11	1		1	1	6								
Polymyxins - Colistin	2	30	5												25	5										
Sulfonamides - Sulfamethoxazole	256	30	4																25	1					4	

Table Antimicrobial susceptibility testing of *S. Livingstone* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Livingstone Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Mbandaka in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Mbandaka	Gallus gallus (fowl)																									
	Gallus gallus (fowl)																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	16	1										12	3				1								
Aminoglycosides - Kanamycin	8	16	1													15				1						
Aminoglycosides - Streptomycin	32	16	2													1	8	4	1	1	1					
Amphenicols - Chloramphenicol	16	16	1													1	13	1		1						
Amphenicols - Florfenicol	16	16	1													5	9	1		1						
Cephalosporins - Cefotaxime	0.5	16	0							6	6	4														
Fluoroquinolones - Ciprofloxacin	0.06	16	2				13			1				2												
Penicillins - Ampicillin	4	16	2											11	3				2							
Quinolones - Nalidixic acid	16	16	2													14				2						
Tetracyclines - Tetracycline	8	16	2											2	9	3			1	1						
Trimethoprim	2	16	2										14						2							
Cephalosporins - Ceftazidim	2	16	0									1	15													
Polymyxins - Colistin	2	16	2												14	2										
Sulfonamides - Sulfamethoxazole	256	16	1																1	4	8	2			1	

Table Antimicrobial susceptibility testing of *S. Mbandaka* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Mbandaka Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Minnesota in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Minnesota	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	126	4										114	8		1		2	1								
Aminoglycosides - Kanamycin	8	126	5													118	3	1			4						
Aminoglycosides - Streptomycin	32	126	25													1	62	22	16	4	21						
Amphenicols - Chloramphenicol	16	126	14													1	107	4	5	9							
Amphenicols - Florfenicol	16	126	5													8	108	5	1	4							
Cephalosporins - Cefotaxime	0.5	126	22							35	62	5	2	1	2	19											
Fluoroquinolones - Ciprofloxacin	0.06	126	29				3		91	3	4	12	8			1	4										
Penicillins - Ampicillin	4	126	55											62	7	2	1	2	52								
Quinolones - Nalidixic acid	16	126	26													94	4	2	3	23							
Tetracyclines - Tetracycline	8	126	32											8	82	2	2	5	3	24							
Trimethoprim	2	126	42										82		2	1	2	1	38								
Cephalosporins - Ceftazidim	2	126	18									50	53	1	4	1	3	14									
Polymyxins - Colistin	2	126	5												121	5											
Sulfonamides - Sulfamethoxazole	256	126	55																1	15	34	21	6		49		

Table Antimicrobial susceptibility testing of S. Minnesota in Gallus gallus (fowl) - quantitative data [Dilution method]

S. Minnesota Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Anatum in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Anatum	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	5	0										4	1														
Aminoglycosides - Kanamycin	8	5	0													5												
Aminoglycosides - Streptomycin	32	5	2														2	1			2							
Amphenicols - Chloramphenicol	16	5	1														3	1		1								
Amphenicols - Florfenicol	16	5	1													2	1	1		1								
Cephalosporins - Cefotaxime	0.5	5	0								2	2	1															
Fluoroquinolones - Ciprofloxacin	0.06	5	2						2	1		1	1															
Penicillins - Ampicillin	4	5	2											2	1				2									
Quinolones - Nalidixic acid	16	5	2													2	1			2								
Tetracyclines - Tetracycline	8	5	1												3	1				1								
Trimethoprim	2	5	2										3						2									
Cephalosporins - Ceftazidim	2	5	0										4	1														
Polymyxins - Colistin	2	5	0												5													
Sulfonamides - Sulfamethoxazole	256	5	2																	2	1					2		

Table Antimicrobial susceptibility testing of *S. Anatum* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. Anatum Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Idikan in Goats - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Idikan	Goats																										
	Isolates out of a monitoring program (yes/no)																										
Antimicrobials:	Number of isolates available in the laboratory	unknown																									
		Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin		2	1	0										1													
Aminoglycosides - Kanamycin		8	1	0													1										
Aminoglycosides - Streptomycin		32	1	0														1									
Amphenicols - Chloramphenicol		16	1	0														1									
Amphenicols - Florfenicol		16	1	0														1									
Cephalosporins - Cefotaxime		0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin		0.06	1	0						1																	
Penicillins - Ampicillin		4	1	0											1												
Quinolones - Nalidixic acid		16	1	0													1										
Tetracyclines - Tetracycline		8	1	0												1											
Trimethoprim		2	1	0										1													
Cephalosporins - Ceftazidim		2	1	0									1														
Polymyxins - Colistin		2	1	0												1											
Sulfonamides - Sulfamethoxazole		256	1	0																		1					

Table Antimicrobial susceptibility testing of *S. Idikan* in Goats - quantitative data [Dilution method]

S. Idikan Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Goats	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Djugu in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Djugu	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	1																	1							
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0												1												
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1															
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	1																	1							
Tetracyclines - Tetracycline	8	1	1																	1							
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																1								

Table Antimicrobial susceptibility testing of *S. Djugu* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Djugu Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 4,12:i:- in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 4,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)																										
	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	0									2															
Aminoglycosides - Kanamycin	8	2	0												2												
Aminoglycosides - Streptomycin	32	2	2																	2							
Amphenicols - Chloramphenicol	16	2	0														2										
Amphenicols - Florfenicol	16	2	0														2										
Cephalosporins - Cefotaxime	0.5	2	0								2																
Fluoroquinolones - Ciprofloxacin	0.06	2	2							2																	
Penicillins - Ampicillin	4	2	2															2									
Quinolones - Nalidixic acid	16	2	0													1	1										
Tetracyclines - Tetracycline	8	2	2																2								
Trimethoprim	2	2	0										1	1													
Cephalosporins - Ceftazidim	2	2	0									1	1														
Polymyxins - Colistin	2	2	0											2													
Sulfonamides - Sulfamethoxazole	256	2	2																						2		

Table Antimicrobial susceptibility testing of S. 4,12:i:- in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 4,12:i:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Other serovars in Pigs - breeding animals - raised under controlled housing conditions -
quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Other serovars	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	2	1										1						1									
Aminoglycosides - Kanamycin	8	2	1													1					1							
Aminoglycosides - Streptomycin	32	2	1															1			1							
Amphenicols - Chloramphenicol	16	2	1														1			1								
Amphenicols - Florfenicol	16	2	1													1				1								
Cephalosporins - Cefotaxime	0.5	2	0								2																	
Fluoroquinolones - Ciprofloxacin	0.06	2	1						1		1																	
Penicillins - Ampicillin	4	2	2																2									
Quinolones - Nalidixic acid	16	2	1													1				1								
Tetracyclines - Tetracycline	8	2	1												1					1								
Trimethoprim	2	2	1										1						1									
Cephalosporins - Ceftazidim	2	2	0									1	1															
Polymyxins - Colistin	2	2	1												1	1												
Sulfonamides - Sulfamethoxazole	256	2	1																	1						1		

Table Antimicrobial susceptibility testing of Other serovars in Pigs - breeding animals - raised under controlled housing conditions -
quantitative data [Dilution method]

Other serovars	Pigs - breeding animals - raised under controlled housing conditions	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Senftenberg in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Senftenberg	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	2	0										1	1														
Aminoglycosides - Kanamycin	8	2	0													2												
Aminoglycosides - Streptomycin	32	2	0														1		1									
Amphenicols - Chloramphenicol	16	2	0														2											
Amphenicols - Florfenicol	16	2	0														2											
Cephalosporins - Cefotaxime	0.5	2	1								1					1												
Fluoroquinolones - Ciprofloxacin	0.06	2	1						1					1														
Penicillins - Ampicillin	4	2	1											1					1									
Quinolones - Nalidixic acid	16	2	1													1				1								
Tetracyclines - Tetracycline	8	2	1												1					1								
Trimethoprim	2	2	1										1						1									
Cephalosporins - Ceftazidim	2	2	0										2															
Polymyxins - Colistin	2	2	0												2													
Sulfonamides - Sulfamethoxazole	256	2	1																	1						1		

Table Antimicrobial susceptibility testing of *S. Senftenberg* in Pigs - breeding animals - raised under controlled housing conditions -
quantitative data [Dilution method]

S. Senftenberg Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Ouakam in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Ouakam	Gallus gallus (fowl)																										
Isolates out of a monitoring program (yes/no)																											
Number of isolates available in the laboratory	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	0										1	1													
Aminoglycosides - Kanamycin	8	2	0													2											
Aminoglycosides - Streptomycin	32	2	2																		2						
Amphenicols - Chloramphenicol	16	2	0														2										
Amphenicols - Florfenicol	16	2	1														1			1							
Cephalosporins - Cefotaxime	0.5	2	0							1	1																
Fluoroquinolones - Ciprofloxacin	0.06	2	0				1		1																		
Penicillins - Ampicillin	4	2	1											1					1								
Quinolones - Nalidixic acid	16	2	1														1			1							
Tetracyclines - Tetracycline	8	2	2																1	1							
Trimethoprim	2	2	1										1						1								
Cephalosporins - Ceftazidim	2	2	2													1		1									
Polymyxins - Colistin	2	2	1												1	1											
Sulfonamides - Sulfamethoxazole	256	2	2																						2		

Table Antimicrobial susceptibility testing of *S. Ouakam* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Ouakam Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Regent in Ducks - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Regent	Ducks																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	4	0										4														
Aminoglycosides - Kanamycin	8	4	0													4											
Aminoglycosides - Streptomycin	32	4	1														2		1		1						
Amphenicols - Chloramphenicol	16	4	0														3	1									
Amphenicols - Florfenicol	16	4	0													1	2	1									
Cephalosporins - Cefotaxime	0.5	4	0							1	3																
Fluoroquinolones - Ciprofloxacin	0.06	4	3							1		2		1													
Penicillins - Ampicillin	4	4	1											2	1				1								
Quinolones - Nalidixic acid	16	4	3													1				3							
Tetracyclines - Tetracycline	8	4	2												1	1			1	1							
Trimethoprim	2	4	2										2						2								
Cephalosporins - Ceftazidim	2	4	0									3	1														
Polymyxins - Colistin	2	4	1												3	1											
Sulfonamides - Sulfamethoxazole	256	4	2															1				1			2		

Table Antimicrobial susceptibility testing of S. Regent in Ducks - quantitative data [Dilution method]

S. Regent Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Ducks	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Rissen in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Rissen	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	26	0										20	5	1												
Aminoglycosides - Kanamycin	8	26	1													25					1						
Aminoglycosides - Streptomycin	32	26	1													1	20	3	1	1							
Amphenicols - Chloramphenicol	16	26	2													1	23			2							
Amphenicols - Florfenicol	16	26	0													5	20	1									
Cephalosporins - Cefotaxime	0.5	26	5							2	17	2		1	1	3											
Fluoroquinolones - Ciprofloxacin	0.06	26	3				16		6	1		2				1											
Penicillins - Ampicillin	4	26	9											13	4		1		8								
Quinolones - Nalidixic acid	16	26	3													23				3							
Tetracyclines - Tetracycline	8	26	4												22				2	2							
Trimethoprim	2	26	4										18	1	3				4								
Cephalosporins - Ceftazidim	2	26	4									1	20		1	2		2									
Polymyxins - Colistin	2	26	0												26												
Sulfonamides - Sulfamethoxazole	256	26	5																1	12	6	2				5	

Table Antimicrobial susceptibility testing of *S. Rissen* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Rissen Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Saintpaul in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Saintpaul	Gallus gallus (fowl)																										
Isolates out of a monitoring program (yes/no)																											
Number of isolates available in the laboratory	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0									1															
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																1								
Amphenicols - Chloramphenicol	16	1	0												1												
Amphenicols - Florfenicol	16	1	0												1												
Cephalosporins - Cefotaxime	0.5	1	1													1											
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1															
Penicillins - Ampicillin	4	1	1																1								
Quinolones - Nalidixic acid	16	1	1																	1							
Tetracyclines - Tetracycline	8	1	0											1													
Trimethoprim	2	1	1																1								
Cephalosporins - Ceftazidim	2	1	1															1									
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	1																						1		

Table Antimicrobial susceptibility testing of *S. Saintpaul* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Saintpaul Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Hadar in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Hadar	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	0										2	1													
Aminoglycosides - Kanamycin	8	3	0													3											
Aminoglycosides - Streptomycin	32	3	3																	1	2						
Amphenicols - Chloramphenicol	16	3	0													3											
Amphenicols - Florfenicol	16	3	0													3											
Cephalosporins - Cefotaxime	0.5	3	1							1	1			1													
Fluoroquinolones - Ciprofloxacin	0.06	3	3									3															
Penicillins - Ampicillin	4	3	2											1					2								
Quinolones - Nalidixic acid	16	3	3																	3							
Tetracyclines - Tetracycline	8	3	3																	3							
Trimethoprim	2	3	1										2					1									
Cephalosporins - Ceftazidim	2	3	1									2						1									
Polymyxins - Colistin	2	3	1												2	1											
Sulfonamides - Sulfamethoxazole	256	3	1																	2						1	

Table Antimicrobial susceptibility testing of *S. Hadar* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Hadar Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Infantis in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Infantis	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	3	0										3															
Aminoglycosides - Kanamycin	8	3	0													3												
Aminoglycosides - Streptomycin	32	3	1														1	1			1							
Amphenicols - Chloramphenicol	16	3	0														3											
Amphenicols - Florfenicol	16	3	0														3											
Cephalosporins - Cefotaxime	0.5	3	0								3																	
Fluoroquinolones - Ciprofloxacin	0.06	3	0						2	1																		
Penicillins - Ampicillin	4	3	1											1	1				1									
Quinolones - Nalidixic acid	16	3	0													3												
Tetracyclines - Tetracycline	8	3	0												3													
Trimethoprim	2	3	0										3															
Cephalosporins - Ceftazidim	2	3	0										3															
Polymyxins - Colistin	2	3	0												3													
Sulfonamides - Sulfamethoxazole	256	3	0																3									

Table Antimicrobial susceptibility testing of *S. Infantis* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. Infantis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Brandenburg in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Brandenburg	Gallus gallus (fowl)																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Kanamycin	8	1	0													1										
Aminoglycosides - Streptomycin	32	1	1																		1					
Amphenicols - Chloramphenicol	16	1	1																	1						
Amphenicols - Florfenicol	16	1	1																1							
Cephalosporins - Cefotaxime	0.5	1	1													1										
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1														
Penicillins - Ampicillin	4	1	1																1							
Quinolones - Nalidixic acid	16	1	1																	1						
Tetracyclines - Tetracycline	8	1	1																	1						
Trimethoprim	2	1	1																1							
Cephalosporins - Ceftazidim	2	1	1															1								
Polymyxins - Colistin	2	1	0												1											
Sulfonamides - Sulfamethoxazole	256	1	1																						1	

Table Antimicrobial susceptibility testing of *S. Brandenburg* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Brandenburg Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 6,8:z10:- in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 6,8:z10:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)																										
	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0									1															
Aminoglycosides - Kanamycin	8	1	0												1												
Aminoglycosides - Streptomycin	32	1	0													1											
Amphenicols - Chloramphenicol	16	1	0												1												
Amphenicols - Florfenicol	16	1	0												1												
Cephalosporins - Cefotaxime	0.5	1	0						1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	1								1																
Penicillins - Ampicillin	4	1	0										1														
Quinolones - Nalidixic acid	16	1	1																1								
Tetracyclines - Tetracycline	8	1	1																1								
Trimethoprim	2	1	0									1															
Cephalosporins - Ceftazidim	2	1	0								1																
Polymyxins - Colistin	2	1	0											1													
Sulfonamides - Sulfamethoxazole	256	1	0																1								

Table Antimicrobial susceptibility testing of S. 6,8:z10:- in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 6,8:z10:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Dublin in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Dublin	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0															1									
Amphenicols - Chloramphenicol	16	1	0													1											
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0												1												
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0											1													
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0									1															
Polymyxins - Colistin	2	1	1													1											
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of *S. Dublin* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Dublin Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Pigeons - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Pigeons																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	8	0										6	2												
Aminoglycosides - Kanamycin	8	8	0													7	1									
Aminoglycosides - Streptomycin	32	8	1														1	5	1		1					
Amphenicols - Chloramphenicol	16	8	2													2	3	1	1	1						
Amphenicols - Florfenicol	16	8	0													6	1	1								
Cephalosporins - Cefotaxime	0.5	8	2							6						2										
Fluoroquinolones - Ciprofloxacin	0.06	8	2				1		5			2														
Penicillins - Ampicillin	4	8	4											3	1				4							
Quinolones - Nalidixic acid	16	8	3													5				3						
Tetracyclines - Tetracycline	8	8	4												3	1		1		3						
Trimethoprim	2	8	4										4						4							
Cephalosporins - Ceftazidim	2	8	1									6	1			1										
Polymyxins - Colistin	2	8	1												7	1										
Sulfonamides - Sulfamethoxazole	256	8	4														1	2	1						4	

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Pigeons - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Pigeons	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Goats - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Goats																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0													1											
Cephalosporins - Cefotaxime	0.5	1	0							1																	
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0										1														
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																1								

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Goats - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Goats	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 6,7:z29 in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 6,7:z29	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	8	0										8														
Aminoglycosides - Kanamycin	8	8	0													8											
Aminoglycosides - Streptomycin	32	8	2													2		2	2		2						
Amphenicols - Chloramphenicol	16	8	0														8										
Amphenicols - Florfenicol	16	8	1													3	4		1								
Cephalosporins - Cefotaxime	0.5	8	3							1	4					3											
Fluoroquinolones - Ciprofloxacin	0.06	8	3				2		3			2	1														
Penicillins - Ampicillin	4	8	3											4	1				3								
Quinolones - Nalidixic acid	16	8	3													5				3							
Tetracyclines - Tetracycline	8	8	1												7					1							
Trimethoprim	2	8	4										4						4								
Cephalosporins - Ceftazidim	2	8	4									2	2				2	2									
Polymyxins - Colistin	2	8	0												8												
Sulfonamides - Sulfamethoxazole	256	8	3																	3	2				3		

Table Antimicrobial susceptibility testing of S. 6,7:z29 in Gallus gallus (fowl) - quantitative data [Dilution method]

S. 6,7:z29 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Other serovars in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Other serovars	Gallus gallus (fowl)																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	0									1	2														
Aminoglycosides - Kanamycin	8	3	0													3											
Aminoglycosides - Streptomycin	32	3	0														1		2								
Amphenicols - Chloramphenicol	16	3	0														3										
Amphenicols - Florfenicol	16	3	0													3											
Cephalosporins - Cefotaxime	0.5	3	0								3																
Fluoroquinolones - Ciprofloxacin	0.06	3	2						1		1		1														
Penicillins - Ampicillin	4	3	1											2					1								
Quinolones - Nalidixic acid	16	3	1													1		1		1							
Tetracyclines - Tetracycline	8	3	0												2	1											
Trimethoprim	2	3	2										1			1			1								
Cephalosporins - Ceftazidim	2	3	0									1	2														
Polymyxins - Colistin	2	3	0												3												
Sulfonamides - Sulfamethoxazole	256	3	1																	2					1		

Table Antimicrobial susceptibility testing of Other serovars in Gallus gallus (fowl) - quantitative data [Dilution method]

Other serovars	Gallus gallus (fowl)	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
Antimicrobials:	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Senftenberg	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	18	0									2	14	2													
Aminoglycosides - Kanamycin	8	18	0													17	1										
Aminoglycosides - Streptomycin	32	18	1														8	8	1		1						
Amphenicols - Chloramphenicol	16	18	0													1	17										
Amphenicols - Florfenicol	16	18	0													12	6										
Cephalosporins - Cefotaxime	0.5	18	0							3	14	1															
Fluoroquinolones - Ciprofloxacin	0.06	18	3				7		8			2	1														
Penicillins - Ampicillin	4	18	4											9	5				4								
Quinolones - Nalidixic acid	16	18	2													16				2							
Tetracyclines - Tetracycline	8	18	1											1	15		1			1							
Trimethoprim	2	18	1										17						1								
Cephalosporins - Ceftazidim	2	18	0									7	10		1												
Polymyxins - Colistin	2	18	0												18												
Sulfonamides - Sulfamethoxazole	256	18	4																3	7	3	1	1		3		

Table Antimicrobial susceptibility testing of *S. Senftenberg* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

S. Senftenberg Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Rideau in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Rideau	Pigs - breeding animals - raised under controlled housing conditions																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Kanamycin	8	1	0													1											
Aminoglycosides - Streptomycin	32	1	0														1										
Amphenicols - Chloramphenicol	16	1	0														1										
Amphenicols - Florfenicol	16	1	0														1										
Cephalosporins - Cefotaxime	0.5	1	0								1																
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																		
Penicillins - Ampicillin	4	1	0											1													
Quinolones - Nalidixic acid	16	1	0													1											
Tetracyclines - Tetracycline	8	1	0												1												
Trimethoprim	2	1	0										1														
Cephalosporins - Ceftazidim	2	1	0										1														
Polymyxins - Colistin	2	1	0												1												
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of *S. Rideau* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

S. Rideau Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Montevideo in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Montevideo	Cattle (bovine animals) - mixed herds																											
	Cattle (bovine animals) - mixed herds																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	2	0											2														
Aminoglycosides - Kanamycin	8	2	0													1	1											
Aminoglycosides - Streptomycin	32	2	0																2									
Amphenicols - Chloramphenicol	16	2	0													2												
Amphenicols - Florfenicol	16	2	0													2												
Cephalosporins - Cefotaxime	0.5	2	0							2																		
Fluoroquinolones - Ciprofloxacin	0.06	2	0						2																			
Penicillins - Ampicillin	4	2	0											2														
Quinolones - Nalidixic acid	16	2	0													2												
Tetracyclines - Tetracycline	8	2	0											1	1													
Trimethoprim	2	2	0										2															
Cephalosporins - Ceftazidim	2	2	0									1	1															
Polymyxins - Colistin	2	2	0												2													
Sulfonamides - Sulfamethoxazole	256	2	0																2									

Table Antimicrobial susceptibility testing of *S. Montevideo* in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

S. Montevideo Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - mixed herds	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Dublin in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Dublin	Cattle (bovine animals) - mixed herds																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	10	0									2	8														
Aminoglycosides - Kanamycin	8	10	0													10											
Aminoglycosides - Streptomycin	32	10	6														2	1	1	5	1						
Amphenicols - Chloramphenicol	16	10	6												1	2	1			6							
Amphenicols - Florfenicol	16	10	0												1	4	4	1									
Cephalosporins - Cefotaxime	0.5	10	0							7	1	1	1														
Fluoroquinolones - Ciprofloxacin	0.06	10	7				3					3	3	1													
Penicillins - Ampicillin	4	10	3										2	3	2			1	2								
Quinolones - Nalidixic acid	16	10	7													3				7							
Tetracyclines - Tetracycline	8	10	0											4	6												
Trimethoprim	2	10	1										8	1					1								
Cephalosporins - Ceftazidim	2	10	0									7	2	1													
Polymyxins - Colistin	2	10	8												2	8											
Sulfonamides - Sulfamethoxazole	256	10	8																1		1		1		7		

Table Antimicrobial susceptibility testing of S. Dublin in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

S. Dublin	Cattle (bovine animals) - mixed herds	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Livingstone in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Livingstone	Cattle (bovine animals) - mixed herds																											
	Cattle (bovine animals) - mixed herds																											
	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	32	1	1																		1							
Amphenicols - Chloramphenicol	16	1	0														1											
Amphenicols - Florfenicol	16	1	0														1											
Cephalosporins - Cefotaxime	0.5	1	1													1												
Fluoroquinolones - Ciprofloxacin	0.06	1	1									1																
Penicillins - Ampicillin	4	1	1																1									
Quinolones - Nalidixic acid	16	1	1																	1								
Tetracyclines - Tetracycline	8	1	1																	1								
Trimethoprim	2	1	1																1									
Cephalosporins - Ceftazidim	2	1	1														1											
Polymyxins - Colistin	2	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	1																						1			

Table Antimicrobial susceptibility testing of *S. Livingstone* in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

S. Livingstone Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - mixed herds	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. 9:-:- in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. 9:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - mixed herds																										
	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	1	0								1																
Aminoglycosides - Kanamycin	8	1	0												1												
Aminoglycosides - Streptomycin	32	1	0													1											
Amphenicols - Chloramphenicol	16	1	0												1												
Amphenicols - Florfenicol	16	1	0											1													
Cephalosporins - Cefotaxime	0.5	1	0						1																		
Fluoroquinolones - Ciprofloxacin	0.06	1	0				1																				
Penicillins - Ampicillin	4	1	0									1															
Quinolones - Nalidixic acid	16	1	0												1												
Tetracyclines - Tetracycline	8	1	0										1														
Trimethoprim	2	1	0									1															
Cephalosporins - Ceftazidim	2	1	0								1																
Polymyxins - Colistin	2	1	0											1													
Sulfonamides - Sulfamethoxazole	256	1	0																1								

Table Antimicrobial susceptibility testing of S. 9:-:- in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

S. 9:-:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - mixed herds	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Cattle (bovine animals) - mixed herds																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	25	0									1	21	3														
Aminoglycosides - Kanamycin	8	25	0													25												
Aminoglycosides - Streptomycin	32	25	11														9	4	1	2	9							
Amphenicols - Chloramphenicol	16	25	5													5	14	1		5								
Amphenicols - Florfenicol	16	25	4													17	3	1	4									
Cephalosporins - Cefotaxime	0.5	25	0							22	2	1																
Fluoroquinolones - Ciprofloxacin	0.06	25	3				7		13	2		2	1															
Penicillins - Ampicillin	4	25	21											3		1			21									
Quinolones - Nalidixic acid	16	25	4													20	1		1	3								
Tetracyclines - Tetracycline	8	25	12											2	11				6	6								
Trimethoprim	2	25	2										23						2									
Cephalosporins - Ceftazidim	2	25	0									21	4															
Polymyxins - Colistin	2	25	0												25													
Sulfonamides - Sulfamethoxazole	256	25	18																2	5						18		

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - mixed herds	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. Enteritidis	Cattle (bovine animals) - mixed herds																											
	Cattle (bovine animals) - mixed herds																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	3	0										3															
Aminoglycosides - Kanamycin	8	3	0													3												
Aminoglycosides - Streptomycin	32	3	0													1	1	1										
Amphenicols - Chloramphenicol	16	3	1													1	1			1								
Amphenicols - Florfenicol	16	3	0													2	1											
Cephalosporins - Cefotaxime	0.5	3	0							2	1																	
Fluoroquinolones - Ciprofloxacin	0.06	3	1				1		1			1																
Penicillins - Ampicillin	4	3	0											1	2													
Quinolones - Nalidixic acid	16	3	1													2				1								
Tetracyclines - Tetracycline	8	3	0											1	2													
Trimethoprim	2	3	0										3															
Cephalosporins - Ceftazidim	2	3	0									2	1															
Polymyxins - Colistin	2	3	0												3													
Sulfonamides - Sulfamethoxazole	256	3	1																	1	1					1		

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - mixed herds	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

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	
Fluoroquinolones	Ciprofloxacin		0.06	
Penicillins	Ampicillin		4	
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	
Fluoroquinolones	Ciprofloxacin		0.06	
Penicillins	Ampicillin		4	
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
Broth dilution	NCCLS/CLSI

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	
	Kanamycin		8	
	Streptomycin	EFSA	32	
Amphenicols	Chloramphenicol	EFSA	16	
	Florfenicol		16	
Cephalosporins	Cefotaxime	EFSA	0.5	
	Ceftazidim		2	
Fluoroquinolones	Ciprofloxacin	EFSA	0.06	
Penicillins	Ampicillin	EFSA	4	
Quinolones	Nalidixic acid	EFSA	16	
Sulfonamides	Sulfonamides	EFSA	256	
Tetracyclines	Tetracycline	EFSA	8	
Trimethoprim	Trimethoprim	EFSA	2	

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Polymyxins	Colistin		2	

2.2 CAMPYLOBACTERIOSIS

2.2.1 General evaluation of the national situation

A. Thermophilic Campylobacter general evaluation

History of the disease and/or infection in the country

Campylobacteriosis is a leading bacterial foodborne gastrointestinal disease in humans in all parts of the world. It can also cause post-infectious complications as Guillain-Barré syndrome.

In 80% of the cases, the infection route of campylobacteriosis is food, but domestic animals including pets can also be involved. The transmission of this pathogen to humans is mostly due to consumption of undercooked poultry, pork and beef, unpasteurized milk, contaminated drinking water, or contacts with the faeces of infected pets. This report will focus on *Campylobacter jejuni* and *Campylobacter coli* that are the principal strains causing enteritis in humans.

The contamination with *Campylobacter* of poultry carcasses and meat is monitored since 2000 by the Federal Agency for the Safety of the Food Chain. The rate of positive poultry samples is stable, but high. Chicken and layer meat have to be well cooked and cross-contamination should be avoided during preparation.

2.2.2 Campylobacter in foodstuffs

A. Thermophilic Campylobacter in Broiler meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

A monitoring program was organized by FASFC to evaluate the level of Campylobacter spp. contamination of broiler meat in Belgian slaughterhouses and cutting plants. Campylobacters is counted on carcasses and cuts of poultry because it is especially the quantitative load of Campylobacter which plays a role in the stake in danger of the consumers.

Frequency of the sampling

At slaughterhouse and cutting plant

Sampling distributed evenly throughout the year

At meat processing plant

Sampling distributed evenly throughout the year

At retail

Sampling distributed evenly throughout the year

Type of specimen taken

At slaughterhouse and cutting plant

Neck skin samples and cuts of broilers with and without skin

At meat processing plant

Meat, minced meat, sausages and other

At retail

Meat, minced meat, sausages and other

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

The matrices were carcasses, cuts and meat preparation of broilers. The Campylobacter spp. contamination levels were analyzed : 1g carcasses, 1g cutting meat and 1g meat preparation.

At meat processing plant

The samples were about 200 g of meat. The amount of Campylobacter has been assessed in 1g of sample.

At retail

The amount of Campylobacter has been assessed in 1g of sample.

Definition of positive finding

At slaughterhouse and cutting plant

A sample is considered positive in case of detection of more than 100 cfu Campylobacter in the sample.

At meat processing plant

Belgium - 2012 Report on trends and sources of zoonoses

A sample is considered positive in case of detection of more than 100 cfu Campylobacter in the sample.

At retail

A sample is considered positive in case of detection of more than 100 cfu Campylobacter in the sample.

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 10272:1995

B. C.,thermophilic in food

Monitoring system

Sampling strategy

A monitoring program was organized by the Federal Agency for the Safety of the Food Chain. More than 200 Belgian slaughterhouses, more than 100 meat cutting plants and more than 100 retail trades representative of the Belgian production of carcasses and meat, were selected for this study. The samples assayed were carcasses and minced meat from pork, carcasses, cuts and meat preparation from chicken, and layer carcasses. Sampling was done by a specially trained staff of the Federal Agency for the Safety of the Food Chain.

Frequency of the sampling

Samples have been taken every week from the first to the 52nd week, except during the 30th week.

Type of specimen taken

meat and dairy products

Methods of sampling (description of sampling techniques)

Sampling of pork carcasses was done by means of swabs (4 areas from the same half carcass constituting 600 cm² were putted in the same stomacher bag).

The carcass samples of broiler and layer consisted of 10g of neck skin. The other samples were about 200g of meat. 10g to 25g representative of the whole sample were weighted in the laboratory, and the detection of *Campylobacter* has been assessed in these quantities or dilutions: 25g for pork minced meat, 600 cm² (pork carcasses), 0,01g for chicken carcasses and layer carcasses, 1g for chicken meat preparation, and for chicken cuts, 0,1g and 25g.

No pooling has been done.

Definition of positive finding

A sample is considered to be positive after biochemical or genetic confirmation of one *Campylobacter* in the sample.

Diagnostic/analytical methods used

For detection of *Campylobacter* in meat samples or swabs the official Belgian SP-VG-M003 method was used following :

- selective enrichment on Preston at 42°C for 48 h,
- isolation on mCCDA at 42°C for 24 h - 120 h,
- confirmation of minimum 1 colony with miniaturised biochemical tests or by PCR typing.

Measures in case of the positive findings or single cases

Measures to be taken in the case of a non-compliant result:

- Notification of the producer or importer
- Possibility of a counter analysis
- Destruction of the non compliant batch or single sample
- Further investigation: additional sampling, possible recall, RASFF, ...

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

The results showed that, even if the contamination by *Campylobacter* spp. of pig carcasses is zero, the pork represents a relatively low risk for the consumer seen the evolution of this contamination during the operations of cut.

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 slaughterhouse	PRI 002	Objective sampling	Official sampling	food sample > carcase swabs	Domestic	Single	600cm2	612	62		
Meat from pig - minced meat - intended to be eaten raw - at retail	DIS 823	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	9	0		
Meat from bovine animals - fresh - at retail	DIS 802	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	6	0		
Meat from bovine animals - minced meat - intended to be eaten raw - at retail	DIS 823	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	33	0		
Milk, cows' - raw milk - intended for direct human consumption - at farm	PRI 013	Unspecified	Official sampling	food sample	Domestic	Batch	1 ml	40	0		
Live bivalve molluscs - at retail	DIS 806	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	92	0		
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm	PRI 008	Unspecified	Official sampling	food sample	Domestic	Batch	1 g	11	0		
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail	DIS 818	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	22	0		
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail	DIS 888	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	12	0		
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at retail	DIS 888	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	8	0		
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail	DIS 823	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	4	0		
Meat from other animal species or not specified - fresh - at retail	DIS 883	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	80	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 pig - minced meat - intended to be eaten cooked - at retail	DIS 888	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	25	0		
Milk, cows' - raw milk - intended for direct human consumption - at retail	DIS 837	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	8	0		

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from pig - fresh - at slaughterhouse			62
Meat from pig - minced meat - intended to be eaten raw - at retail			
Meat from bovine animals - fresh - at retail			
Meat from bovine animals - minced meat - intended to be eaten raw - at retail			
Milk, cows' - raw milk - intended for direct human consumption - at farm			
Live bivalve molluscs - at retail			
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm			
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail			
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail			

Table Campylobacter in other food

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at retail			
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail			
Meat from other animal species or not specified - fresh - at retail			
Meat from pig - minced meat - intended to be eaten cooked - at retail			
Milk, cows' - raw milk - intended for direct human consumption - at 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) - carcase - at slaughterhouse	PRI 003	Objective sampling	Official sampling	food sample > neck skin	Domestic	Single	1g	440	44		
Meat from broilers (Gallus gallus) - fresh - at processing plant	TRA 200	Objective sampling	Official sampling	food sample > meat	Domestic	Single	1g	714	16		
Meat from broilers (Gallus gallus) - fresh - at retail	DIS 819 DIS 821	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	383	44	11	23
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant	TRA 202	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	47	0		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail	DIS 826	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	40	0		
Meat from turkey - fresh - at retail	DIS 821	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	12	0		
Meat from turkey - meat preparation - intended to be eaten cooked - at processing plant	TRA 202	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	10	0		
Meat from turkey - meat preparation - intended to be eaten cooked - at retail	DIS 826	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	2	0		
Meat from poultry, unspecified - fresh - at retail	DIS 821	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	15	0		
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at processing plant	TRA 202	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	2	0		
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at retail	DIS 826	Unspecified	Official sampling	food sample	Unknown	Batch	1 g	17	0		

Table Campylobacter in poultry meat

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus) - carcase - at slaughterhouse			44
Meat from broilers (Gallus gallus) - fresh - at processing plant			16
Meat from broilers (Gallus gallus) - fresh - at retail			15
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant			
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail			
Meat from turkey - fresh - at retail			
Meat from turkey - meat preparation - intended to be eaten cooked - at processing plant			
Meat from turkey - meat preparation - intended to be eaten cooked - at retail			
Meat from poultry, unspecified - fresh - at retail			
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at processing plant			
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at retail			

Table Campylobacter in poultry meat

2.2.3 Campylobacter in animals

A. Thermophilic Campylobacter in Gallus gallus

Monitoring system

Sampling strategy

In 2012 no monitoring was realised for Campylobacter by analysis of caeca.

Frequency of the sampling

At slaughter

Sampling distributed evenly throughout the year

Type of specimen taken

At slaughter

caeca

Methods of sampling (description of sampling techniques)

At slaughter

10 caeca pairs are pooled to one sample. 6 samples are taken of each examined flock. The caeca are emptied at the laboratory. The content is examined for Campylobacter.

Case definition

At slaughter

A sample is positive if Campylobacter is detected.

Measures in case of the positive findings or single cases

Samples are taken for monitoring purposes only. No measures are taken in case of positive findings.

2.2.4 Antimicrobial resistance in Campylobacter isolates

A. Antimicrobial resistance in Campylobacter jejuni and coli in foodstuff derived from pigs

Sampling strategy used in monitoring

Procedures for the selection of isolates for antimicrobial testing

All strains isolated in the zoonosis monitoring program and originating from pork were sent to the Institute of Public Health for determination of antimicrobial resistance.

Laboratory methodology used for identification of the microbial isolates

Specification (coli/jejuni) with PCR (Debruyne et al, Res Microbiol, 2008)

Laboratory used for detection for resistance

Antimicrobials included in monitoring

The antimicrobials tested and the breakpoints used are listed in the following table.

Antimicrobial Breakpoints (g / ml)

Jejunicola	
Chloramphenicol	16/16
Tetracycline	2/2
Nalidixic acid	16/32
Ciprofloxacin	1/1
Erythromycin	4/16
Gentamicin	1/2
Streptomycin	2/4

Minimum Inhibitory Concentrations were determined following the NCCLS guidelines.

Results of the investigation

In total, 54 Campylobacter isolates were analysed, of which 50 belonged to C. coli and 4 to C. jejuni. The number of isolates that were sensitive to all tested antibiotics was 5% which is an increase compared to last year (2%). The resistance against streptomycin (80%) and tetracycline (76%) was high, and 46% of all isolates showed resistance to three or more antibiotics tested. Complete resistance was not observed.

B. Antimicrobial resistance in *Campylobacter jejuni* and *coli* in foodstuff derived from poultry

Sampling strategy used in monitoring

Procedures for the selection of isolates for antimicrobial testing

In 2012, 621 *Campylobacter* strains isolated in the zoonoses monitoring programme and originating from poultry, (carcasses of broilers, filets, entrails, meat preparation and carcasses of spent hens) and pork were sent for antimicrobial susceptibility testing. Of these, 376 *Campylobacter* strains were actually included for antimicrobial susceptibility. Since 2011, a threshold of samples has been established.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Minimum Inhibitory Concentrations (MIC) were determined by using broth microdilution method (Sensititre EUCAMP panel). The antimicrobials tested and the breakpoints (following the CLSI standards) used are listed in the table below.

Antimicrobial Breakpoints (μg / ml)

jejuni/*coli*

Chloramphenicol 16/16

Tetracycline 2/2

Nalidixic acid 32/32

Ciprofloxacin 1/1

Erythromycin 4/16

Gentamicin 12

Streptomycin 24

Results of the investigation

344 *Campylobacter* strains were isolated in poultry meat and carcasses and tested for antimicrobial susceptibility (242 *C. jejuni* and 102 *C. coli* strains).

In total 31.7% of all *Campylobacter* strains from poultry meat were sensitive to all tested antibiotics.

Tetracycline resistance was most dominantly present (56.6 %), followed closely by resistance to ciprofloxacin (52.9 %) and Nalidixic acid (51.4 %). Those values are similar to values found in 2011.

Overall antibiotic resistance was more prevalent in *C. coli* than in *C. jejuni*, with only 16% (17 out of 102) of *C. coli* strains sensitive to all antibiotics, similar to last year. The number of *C. coli* multiresistant strains, resistant to three or more antibiotics was 61.8 %. A high resistance was observed for tetracycline (71 %), ciprofloxacin (71 %) and nalidixic acid (69 %), very similar to values found previous year except for nalidixic acid which an increase of 18 % has been detected respect to 2011.

For *C. jejuni*, 33% of all strains were sensitive to all antibiotics tested, which is the same as the previous year. The resistance against the antibiotics tested remained stable, with high levels found for tetracycline (50%), ciprofloxacin (45%) and nalidixic acid (44%) as last year, however resistance to streptomycin, has decreased from 20% in 2011 to 3% in 2012.

C. Antimicrobial resistance in Campylobacter jejuni and coli in pigs

Sampling strategy used in monitoring

Frequency of the sampling

In 2012, 621 Campylobacter strains isolated in the zoonoses monitoring programme and originating from poultry, (carcasses of broilers, filets, entrails, meat preparation and carcasses of spent hens) and pork were sent for antimicrobial susceptibility testing. Of these, 376 Campylobacter strains were actually included for antimicrobial susceptibility. Since 2011, a threshold of samples has been established.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Minimum Inhibitory Concentrations (MIC) were determined by using broth microdilution method (Sensititre EUCAMP panel). The antimicrobials tested and the breakpoints (following the CLSI standards) used are listed in the table below.

Antimicrobial Breakpoints (g / ml)

jejuni coli

Chloramphenicol 16/16

Tetracycline 2/2

Nalidixic acid 32/32

Ciprofloxacin 1/1

Erythromycin 4/16

Gentamicin 12

Streptomycin 24

Results of the investigation

Antimicrobial resistance in Campylobacter from pork

In total, 32 Campylobacter isolates were analysed, which belonged to C. coli.

The number of isolates that were sensitive to all tested antibiotics was 5% which is an increase compared to last year (2%). The resistance against streptomycin (78 %) and tetracycline (87 %) was high, and 43% of all isolates showed resistance to three or more antibiotics tested, very similar to 2011. Complete resistance to all antibiotics tested was not observed.

Table Antimicrobial susceptibility testing of *C. coli* in Meat from poultry, unspecified - at retail - Surveillance - Official sampling - food sample - meat - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

C. coli	Meat from poultry, unspecified - at retail - Surveillance																										
	yes																										
	29																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	29	1									5	16	7				1									
Aminoglycosides - Streptomycin	4	29	9											9	7	4		9									
Amphenicols - Chloramphenicol	16	29	0												20	9											
Fluoroquinolones - Ciprofloxacin	1	29	21							2	5	1				21											
Quinolones - Nalidixic acid	32	29	21													3	5			21							
Tetracyclines - Tetracycline	2	29	20									6	3					20									
Macrolides - Erythromycin	16	29	5										16	4	4				5								

C. coli	Meat from poultry, unspecified - at retail - Surveillance	
	yes	
	29	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Fluoroquinolones - Ciprofloxacin		
Quinolones - Nalidixic acid		

Table Antimicrobial susceptibility testing of C. coli in Meat from poultry, unspecified - at retail - Surveillance - Official sampling - food sample - meat - quantitative data [Dilution method]

C. coli	Meat from poultry, unspecified - at retail - Surveillance	
Isolates out of a monitoring program (yes/no)	yes	
Number of isolates available in the laboratory	29	
Antimicrobials:	lowest	highest
Tetracyclines - Tetracycline		
Macrolides - Erythromycin		

Table Antimicrobial susceptibility testing of *C. jejuni* - *C. jejuni* subsp. *jejuni* in Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - chilled - at retail - Surveillance - Official sampling - food sample - meat - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

C. jejuni subsp. jejuni	Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - chilled - at retail - Surveillance																											
	yes																											
	61																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	1	61	0								10	34	17															
Aminoglycosides - Streptomycin	2	61	4											51	6	2		2										
Amphenicols - Chloramphenicol	16	61	0												45	14	1	1										
Fluoroquinolones - Ciprofloxacin	1	61	36							12	7	3	1	2		36												
Quinolones - Nalidixic acid	32	61	31												5	15	5	1	4	31								
Tetracyclines - Tetracycline	2	61	34									23	4			1	1	32										
Macrolides - Erythromycin	4	61	0										49	1	9	2												

<i>C. jejuni</i> subsp. <i>jejuni</i> Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - chilled - at retail - Surveillance	
	yes	
	61	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		

Table Antimicrobial susceptibility testing of *C. jejuni* - *C. jejuni* subsp. *jejuni* in Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - chilled - at retail - Surveillance - Official sampling - food sample - meat - quantitative data [Dilution method]

<i>C. jejuni</i> subsp. <i>jejuni</i>	Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - chilled - at retail - Surveillance	
Isolates out of a monitoring program (yes/no)	yes	
Number of isolates available in the laboratory	61	
Antimicrobials:	lowest	highest
Fluoroquinolones - Ciprofloxacin		
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Macrolides - Erythromycin		

Table Antimicrobial susceptibility testing of C. coli in Meat from broilers (Gallus gallus) - carcase - spent hens - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

C. coli	Meat from broilers (Gallus gallus) - carcase - spent hens - at slaughterhouse - Surveillance																												
	Isolates out of a monitoring program (yes/no)	yes																											
		43																											
		Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Antimicrobials:	2	43	2								8	31	2	0	1		1												
Aminoglycosides - Gentamicin	4	43	6											14	16	7		6											
Aminoglycosides - Streptomycin	16	43	0												25	15	3												
Amphenicols - Chloramphenicol	1	43	28							4	7	4				28													
Fluoroquinolones - Ciprofloxacin	32	43	28											1	8	6			28										
Quinolones - Nalidixic acid	2	43	27									8	6		2			27											
Tetracyclines - Tetracycline	16	43	7										19	12	3	2			7										
Macrolides - Erythromycin																													

C. coli	Meat from broilers (Gallus gallus) - carcase - spent hens - at slaughterhouse - Surveillance	
	Isolates out of a monitoring program (yes/no)	yes
	Number of isolates available in the laboratory	43
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Fluoroquinolones - Ciprofloxacin		

Table Antimicrobial susceptibility testing of C. coli in Meat from broilers (Gallus gallus) - carcase - spent hens - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

C. coli	Meat from broilers (Gallus gallus) - carcase - spent hens - at slaughterhouse - Surveillance	
Isolates out of a monitoring program (yes/no)	yes	
Number of isolates available in the laboratory	43	
Antimicrobials:	lowest	highest
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Macrolides - Erythromycin		

Table Antimicrobial susceptibility testing of *C. jejuni* - *C. jejuni* subsp. *jejuni* in Meat from broilers (*Gallus gallus*) - carcase - spent hens - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

C. jejuni subsp. jejuni	Meat from broilers (<i>Gallus gallus</i>) - carcase - spent hens - at slaughterhouse - Surveillance																											
	yes																											
	106																											
	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	≥4096	1024	2048		
Aminoglycosides - Gentamicin	1	106	0								7	67	31	1														
Aminoglycosides - Streptomycin	2	106	3											90	13	3												
Amphenicols - Chloramphenicol	16	106	0												76	25	5											
Fluoroquinolones - Ciprofloxacin	1	106	30								35	26	12	3			30											
Quinolones - Nalidixic acid	32	106	24												16	44	9	8	5	24								
Tetracyclines - Tetracycline	2	106	40									58	6	2		2		38										
Macrolides - Erythromycin	4	106	2										86	6	8	4			2									

C. jejuni subsp. jejuni	Meat from broilers (<i>Gallus gallus</i>) - carcase - spent hens - at slaughterhouse - Surveillance	
	yes	
	106	
	lowest	highest
Aminoglycosides - Gentamicin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Fluoroquinolones - Ciprofloxacin		

Table Antimicrobial susceptibility testing of *C. jejuni* - *C. jejuni* subsp. *jejuni* in Meat from broilers (*Gallus gallus*) - carcase - spent hens - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

<i>C. jejuni</i> subsp. <i>jejuni</i> Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from broilers (<i>Gallus gallus</i>) - carcase - spent hens - at slaughterhouse - Surveillance	
	yes	
	106	
	lowest	highest
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Macrolides - Erythromycin		

Table Antimicrobial susceptibility testing of C. coli in Meat from broilers (Gallus gallus) - carcass - chilled - at slaughterhouse - Surveillance - Official sampling - food sample - carcass swabs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

C. coli	Meat from broilers (Gallus gallus) - carcase - chilled - at slaughterhouse - Surveillance																										
	yes																										
	30																										
	Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	30	0									4	19	7													
Aminoglycosides - Streptomycin	4	30	8											7	11	4	1	7									
Amphenicols - Chloramphenicol	16	30	0												19	10		1									
Fluoroquinolones - Ciprofloxacin	1	30	24							2	3	1				24											
Quinolones - Nalidixic acid	32	30	21													3	2	1	3	21							
Tetracyclines - Tetracycline	2	30	26									3	1					26									
Macrolides - Erythromycin	16	30	8										11	8	2		1		8								

C. coli	Meat from broilers (Gallus gallus) - carcass - chilled - at slaughterhouse - Surveillance	
	yes	
	30	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Fluoroquinolones - Ciprofloxacin		

Table Antimicrobial susceptibility testing of C. coli in Meat from broilers (Gallus gallus) - carcase - chilled - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

C. coli	Meat from broilers (Gallus gallus) - carcase - chilled - at slaughterhouse - Surveillance	
	Isolates out of a monitoring program (yes/no)	yes
	Number of isolates available in the laboratory	30
	Antimicrobials:	lowesthighest
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Macrolides - Erythromycin		

Table Antimicrobial susceptibility testing of *C. jejuni* - *C. jejuni* subsp. *jejuni* in Meat from broilers (*Gallus gallus*) - carcase - chilled - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

C. jejuni subsp. jejuni Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from broilers (Gallus gallus) - carcase - chilled - at slaughterhouse - Surveillance																											
	yes																											
	75																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	1	75	0							17	43	15																
Aminoglycosides - Streptomycin	2	75	0										69	6														
Amphenicols - Chloramphenicol	16	75	0											63	8	2	2											
Fluoroquinolones - Ciprofloxacin	1	75	43						14	12	2	4			43													
Quinolones - Nalidixic acid	32	75	33											8	16	6	2	10	33									
Tetracyclines - Tetracycline	2	75	48								26	1					48											
Macrolides - Erythromycin	4	75	1									65	6	2	1	1												

<i>C. jejuni</i> subsp. <i>jejuni</i> Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - carcase - chilled - at slaughterhouse - Surveillance	
	yes	
	75	
	lowest	highest
Aminoglycosides - Gentamicin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Fluoroquinolones - Ciprofloxacin		

Table Antimicrobial susceptibility testing of C. jejuni - C. jejuni subsp. jejuni in Meat from broilers (Gallus gallus) - carcase - chilled - at slaughterhouse - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

C. jejuni subsp. jejuni	Meat from broilers (Gallus gallus) - carcase - chilled - at slaughterhouse - Surveillance	
Isolates out of a monitoring program (yes/no)	yes	
Number of isolates available in the laboratory	75	
Antimicrobials:	lowest	highest
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Macrolides - Erythromycin		

Table Antimicrobial susceptibility testing of C. coli in Meat from pig - carcase - chilled - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

C. coli	Meat from pig - carcase - chilled - Surveillance																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	32																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	32	1										19	11	1			1										
Aminoglycosides - Streptomycin	4	32	25												3	4		25										
Amphenicols - Chloramphenicol	16	32	0												17	13	2											
Fluoroquinolones - Ciprofloxacin	1	32	13							4	9	4	1	1		13												
Quinolones - Nalidixic acid	32	32	13													6	11	1	1	13								
Tetracyclines - Tetracycline	2	32	28									1	2		1			28										
Macrolides - Erythromycin	16	32	5										6	9	8	2	2		5									

C. coli	Meat from pig - carcase - chilled - Surveillance	
	yes	
	32	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Fluoroquinolones - Ciprofloxacin		
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		

Table Antimicrobial susceptibility testing of C. coli in Meat from pig - carcase - chilled - Surveillance - Official sampling - food sample - carcase swabs - quantitative data [Dilution method]

C. coli	Meat from pig - carcase - chilled - Surveillance	
	Isolates out of a monitoring program (yes/no)	
	yes	
Antimicrobials:	Number of isolates available in the laboratory	
	32	
	lowest	highest
Macrolides - Erythromycin		

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		1	
Macrolides	Erythromycin		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		1	
Macrolides	Erythromycin		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		
Broth dilution		NCCLS/CLSI		

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	
	Streptomycin	EFSA	4	
Fluoroquinolones	Ciprofloxacin	EFSA	1	
Macrolides	Erythromycin	EFSA	16	
Quinolones	Nalidixic acid		32	
Tetracyclines	Tetracycline	EFSA	2	

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		1	
	Streptomycin		2	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		4	
Tetracyclines	Tetracycline		2	

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		1	
	Streptomycin		2	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		4	
Tetracyclines	Tetracycline		2	

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

Test Method Used		Standard methods used for testing		
Broth dilution		NCCLS/CLSI		

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	1	
	Streptomycin	EFSA	2	
Fluoroquinolones	Ciprofloxacin	EFSA	1	
Macrolides	Erythromycin	EFSA	4	
Quinolones	Nalidixic acid		32	
Tetracyclines	Tetracycline	EFSA	2	

2.3 LISTERIOSIS

2.3.1 General evaluation of the national situation

A. Listeriosis general evaluation

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

Listeria monocytogenes has become a major concern of the food industry and public health authorities. Ingestion of food contaminated with *Listeria monocytogenes* may cause either a serious invasive illness affecting people with altered or deficient immune responses, or a non-invasive febrile gastro-enteritis. Although the incidence of listeriosis is low, the high mortality rate, which often reaches as high as 30-40%, requires early diagnosis and appropriate antimicrobial therapy. Listeriosis is transmitted to humans via contact with animals, cross-infection of foetus or newborn babies and foodborne infection. *Listeria* is ubiquitous and widely distributed in the environment (soil, vegetables, meat, milk, fish). All food associated with *Listeria monocytogenes* outbreaks were consumed without further processing or after minimal heat treatment, and many of them had a suitable environment for growth.

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

Recent actions taken to control the zoonoses

General food hygiene rules are essential for the prevention of human listeriosis. As some persons are at high risk (pregnant women, immunocompromised people), they are advised not to eat certain categories of food with proven elevated risk of *Listeria monocytogenes* contamination, such as unpasteurized milk and butter, soft cheeses and ice cream made from unpasteurized milk, any soft cheese crust, smoked fish, pâté, cooked ham, salami, cooked meat in jelly, raw minced meat from beef, pork and poultry, steak tartar, raw fish and shellfish (oysters, mussels, shrimps), fish, meat and surimi salads, insufficiently rinsed raw vegetables, unpeeled fruit.

2.3.2 Listeriosis in humans

A. Listeriosis in humans

History of the disease and/or infection in the country

2.3.3 Listeria in foodstuffs

A. L. monocytogenes in food

Monitoring system

Frequency of the sampling

At retail

Samples are taken according to the national control program or in the frame of RASFF, complaints or suspicion.

Type of specimen taken

At retail

r

Definition of positive finding

At the production plant

A sample is considered to be positive after confirmation of *Listeria monocytogenes* on chromogenic medium.

At retail

A sample is considered to be positive after confirmation of *Listeria monocytogenes* on chromogenic medium.

Diagnostic/analytical methods used

At the production plant

AFNOR validated VIDAS LMO2 followed by a chromogenic medium (Rapid L. mono or ALOA)

At retail

AFNOR validated VIDAS LMO2 followed by a chromogenic medium (Rapid L. mono or ALOA)

Control program/mechanisms

The control program/strategies in place

Controls are realized by the FASFC in case of notification.

Measures in case of the positive findings

Measures to be taken in the case of a non-compliant result:

- Notification of the producer or importer
- Possibility of a counter analysis
- Destruction of the non compliant batch or single sample
- Further investigation: additional sampling, possible recall, RASFF, ...

Notification system in place

Notification is mandatory since 1/3/2004 (Ministerial Decree on mandatory notification in the food chain of 22/1/2004). For *Listeria monocytogenes*, the criterion of 100 cfu/g in ready-to-eat food putted on the market may not be exceeded. Laboratories have to inform the Federal Agency for the Safety of the Food Chain in case of a positive sample.

Table *Listeria monocytogenes* in milk and dairy products

	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
Milk, cows' - raw milk - intended for direct human consumption - at farm - Surveillance ¹⁾	PRI 013 - DIS 837	Objective sampling	Official sampling	food sample > milk	Domestic	Batch	1 ml	48	1	0	0
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance ²⁾	TRA 133	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	52	3	50	2
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance ³⁾	DIS 818	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	51	0	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance ⁴⁾	TRA 134	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	75	0	75	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance ⁵⁾	DIS 818	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	77	0	0	0
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant - Surveillance ⁶⁾	TRA 134	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	37	0	31	0
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - Surveillance ⁷⁾	DIS 818	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	38	0	0	0
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm - Surveillance ⁸⁾	PRI 008	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	12	0	2	0
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance ⁹⁾	DIS 818	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	48	0	0	0

Table *Listeria monocytogenes* in milk and dairy products

	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
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at farm - Surveillance ¹⁰⁾	PRI 008	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	30	0	14	0
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at processing plant - Surveillance ¹¹⁾	TRA 134	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	56	0	18	0
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at retail - Surveillance ¹²⁾	DIS 818	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	57	0	0	0
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance ¹³⁾	PRI 008	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	10	1	3	0
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance ¹⁴⁾	TRA 133	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	45	5	25	5
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance ¹⁵⁾	DIS 818	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	45	0	0	0
Cheeses made from sheep's milk - unspecified - made from pasteurised milk - at retail - Surveillance ¹⁶⁾	DIS 818	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	114	0	0	0
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance ¹⁷⁾	PRI 008	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	10	1	2	1
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance ¹⁸⁾	TRA 133	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	8	0	8	0

Table *Listeria monocytogenes* in milk and dairy products

	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
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance ¹⁹⁾	DIS 818	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	80	0	0	0
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at farm - Surveillance ²⁰⁾	DPA 009	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	90	3	29	3
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at farm - Surveillance ²¹⁾	PRI 025	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	35	0	8	0
Dairy products (excluding cheeses) - ice-cream - at farm - Surveillance ²²⁾	PRI 010	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	115	0	0	0
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance ²³⁾	DIS 859	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	114	0	0	0
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance ²⁴⁾	TRA 123	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	45	0	0	0
Dairy products (excluding cheeses) - yoghurt - at farm - Surveillance ²⁵⁾	PRI 007	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	22	0	0	0
Dairy products (excluding cheeses) - yoghurt - at processing plant - Surveillance ²⁶⁾	TRA 142	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	40	0	0	0
Dairy products (excluding cheeses) - yoghurt - at retail - Surveillance ²⁷⁾	DIS 858	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	67	0	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Milk, cows' - raw milk - intended for direct human consumption - at farm - Surveillance ¹⁾	48	1	0
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance ²⁾	6	1	0
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance ³⁾	51	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance ⁴⁾	0	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance ⁵⁾	77	0	0
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant - Surveillance ⁶⁾	11	0	0
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - Surveillance ⁷⁾	38	0	0
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm - Surveillance ⁸⁾	10	0	0
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance ⁹⁾	48	0	0
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at farm - Surveillance ¹⁰⁾	17	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at processing plant - Surveillance ¹¹⁾	38	0	0
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at retail - Surveillance ¹²⁾	57	0	0
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance ¹³⁾	7	0	1
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance ¹⁴⁾	21	0	0
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance ¹⁵⁾	45	0	0
Cheeses made from sheep's milk - unspecified - made from pasteurised milk - at retail - Surveillance ¹⁶⁾	114	0	0
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance ¹⁷⁾	8	0	0
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance ¹⁸⁾	0	0	0
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance ¹⁹⁾	80	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogen es > 100 cfu/g
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at farm - Surveillance ²⁰⁾	65	0	0
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at farm - Surveillance ²¹⁾	28	0	0
Dairy products (excluding cheeses) - ice-cream - at farm - Surveillance ²²⁾	115	0	0
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance ²³⁾	114	0	0
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - Surveillance ²⁴⁾	45	0	0
Dairy products (excluding cheeses) - yoghurt - at farm - Surveillance ²⁵⁾	22	0	0
Dairy products (excluding cheeses) - yoghurt - at processing plant - Surveillance ²⁶⁾	40	0	0
Dairy products (excluding cheeses) - yoghurt - at retail - Surveillance ²⁷⁾	67	0	0

Comments:

- ¹⁾ count in 1 ml, sample of 200 ml
- ²⁾ sample > 300g, count in 1 g, detection in 25 g
- ³⁾ sample of 200g, count in 1 g
- ⁴⁾ sample > 300g, detection in 25g

Table Listeria monocytogenes in milk and dairy products

Comments:

- 5) sample of 200g, count in 1g
- 6) sample > 300g, detection in 25g, count in 1g
- 7) sample of 200g, count in 1g
- 8) sample of 200g, count in 1 g, detection in 25g
- 9) sample of 200g, count in 1g
- 10) sample of 200g, detection in 25g, count in 1g
- 11) sample > 300g, detection in 25g, count in 1g
- 12) sample of 200g, count in 1g
- 13) sample of 200g, detection in 25g, count in 1g
- 14) sample >300g, detection in 25 g, count in 1g
- 15) sample of 200g, count in 1g
- 16) sample of 200g, count in 1g
- 17) sample of 200g, detection in 25g, count in 1g
- 18) sample > 300g, detection in 25g
- 19) sample of 200g, count in 1g
- 20) sample of 200g, detection in 25g, count in 1g
- 21) sample of 200g, detection in 25g, count in 1g
- 22) sample of 100g, count in 1g
- 23) sample of 150g, count in 1g
- 24) sample > 500g, count in 1g
- 25) sample of 200g, count in 1g
- 26) sample > 200g, count in 1g

Table Listeria monocytogenes in milk and dairy products

Comments:

²⁷⁾ sample of 100g, count in 1g

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 broilers (<i>Gallus gallus</i>) - meat products - cooked, ready-to-eat - at processing plant - Surveillance	TRA 416	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	170	1	74	1
Fish - smoked - at processing plant - Surveillance	TRA 400	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	200	0	0	0
Fish - smoked - at retail - Surveillance	DIS 847	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	200	0	0	0
Infant formula - at retail - Surveillance	DIS 803	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	289	0	289	0
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - Surveillance	DIS 862	Objective sampling	Official sampling	food sample	Unknown	Batch	25 g	146	0	146	0
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	DIS 813	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	114	0	0	0
Fish - raw - at retail - Surveillance	DIS 873	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	293	1	0	0
Fishery products, unspecified - ready-to-eat - at processing plant - Surveillance	TRA 402	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	157	1	65	1
Fishery products, unspecified - ready-to-eat - at retail - Surveillance	DIS 808	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	148	0	0	0
Fishery products, unspecified - smoked - at processing plant - Surveillance	TRA 400	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	21	2	16	2
Fruits - whole - at retail - Surveillance (melon)	DIS 841	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	124	0	0	0
Infant formula - dried - at processing plant - Surveillance	TRA 171	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	10	0	10	0

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 other animal species or not specified - meat products - cooked, ready-to-eat - at processing plant - Surveillance	TRA 302	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	110	4	30	4
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at processing plant - Surveillance	TRA 300	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	113	0	96	0
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at processing plant - Surveillance	TRA 416	Objective sampling	Official sampling	food sample		Batch	1 g	161	0	70	0
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at retail - Surveillance	DIS 801	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	524	2	0	0
Meat from other animal species or not specified - minced meat - at retail - Surveillance	DIS 823	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	74	0	0	0
Meat from other animal species or not specified - minced meat - at retail - Surveillance	DIS 815	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	583	1	0	0
Meat from pig - meat products - fermented sausages - at processing plant - Surveillance	TRA 317	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	10	1	3	1
Meat from pig - meat products - raw ham - at processing plant - Surveillance	TRA 317	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	116	2	83	1
Meat from pig - meat products - raw ham - at retail - Surveillance	DIS 801	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	114	0	0	0
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance	DIS 807	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	533	0	0	0
Ready-to-eat salads - at retail - Surveillance	DIS 807	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	272	2	0	0

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
Sauce and dressings - mayonnaise - at retail - Surveillance	DIS 861	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	6	0	0	0

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance	96	0	0
Fish - smoked - at processing plant - Surveillance	200	0	0
Fish - smoked - at retail - Surveillance	200	0	0
Infant formula - at retail - Surveillance	0	0	0
Foodstuffs intended for special nutritional uses - dietary foods for special medical purposes - at retail - Surveillance	0	0	0
Fruits - pre-cut - ready-to-eat - at retail - Surveillance	114	0	0
Fish - raw - at retail - Surveillance	293	1	0
Fishery products, unspecified - ready-to-eat - at processing plant - Surveillance	92	0	0
Fishery products, unspecified - ready-to-eat - at retail - Surveillance	148	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
Fishery products, unspecified - smoked - at processing plant - Surveillance	5		
Fruits - whole - at retail - Surveillance (melon)	124		
Infant formula - dried - at processing plant - Surveillance			
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at processing plant - Surveillance	80		
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at processing plant - Surveillance	17		
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at processing plant - Surveillance	91		
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at retail - Surveillance	524	1	1
Meat from other animal species or not specified - minced meat - at retail - Surveillance	74		
Meat from other animal species or not specified - minced meat - at retail - Surveillance	583	1	
Meat from pig - meat products - fermented sausages - at processing plant - Surveillance	7		
Meat from pig - meat products - raw ham - at processing plant - Surveillance	33	1	

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 - raw ham - at retail - Surveillance	114		
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - at retail - Surveillance	533	0	0
Ready-to-eat salads - at retail - Surveillance	272	2	0
Sauce and dressings - mayonnaise - at retail - Surveillance	6		

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

2.4.2 Escherichia coli, pathogenic in foodstuffs

A. Verotoxigenic E. coli (VTEC) in food

Monitoring system

Sampling strategy

A monitoring program was organized by the Federal Agency for the Safety of the Food Chain. More than 200 Belgian slaughterhouses, more than 100 meat cutting plants and more than 100 retail trades representative of the Belgian production, were selected for this study. The samples assayed were carcasses, cuts and minced meat from beef and other foodstuffs. Sampling was done by a specially trained staff of the Federal Agency for the Safety of the Food Chain.

Frequency of the sampling

Samples have been taken every week from the first to the 52nd week, except during the 30th week.

Type of specimen taken

Other: Meat, sprouted seeds, cheeses and other dairy products, pre-cut fruits and vegetables and vegetables.

Methods of sampling (description of sampling techniques)

Sampling of beef carcasses was done by means of swabs (4 areas from the same half carcass constituting 1600 cm² were putted in the same stomacher bag).

The samples were putted in a cool box and transported to a dispatching center of the Federal Agency for the Safety of the Food Chain and the laboratory take the samples at the dispatching center for analyses.

The other samples were about 200g of meat. The detection of enterohemorrhagic E. coli has been assessed in 1600 cm² for beef carcasses and in 25g for beef minced meat and beef cuts.

No pooling has been done.

Definition of positive finding

A sample is considered positive after isolation and genetic confirmation of the pathogenicity of the O157 E. coli strain in the sample. In case of isolation and genetic confirmation of the top 5 VTEC in dairy products, the sample is considered positive. In sprouted seeds, pre-cut fruits and vegetables and (non-pre-cut) vegetables a sample is also considered positive after isolation and genetic confirmation of E. coli O104:H4.

Diagnostic/analytical methods used

For detection of Escherichia coli O157, the Belgian official SP-VG-M001 method, according to the ISO 16654 (2001) was used :

- pre-enrichment in m-TSB + novobiocin at 42°C for 7 hours,
- enrichment in CT-Mac Conkey at 37°C for 16-18 hours;
- immunoassay O157 (VIDAS ECO, bioMérieux),
- selective immunomagnetic enrichment (Dynabeads, Dynal or VIDAS ICE, bioMérieux),
- isolation on sorbitol-Mac Conkey and incubation at 42°C for 18 h,
- isolation and confirmation (agglutination of latex particles, Oxoid),

- search for genes encoding for virulence factors in national reference laboratory.
- For the detection of other E.coli types, the ISO/PRF TS 13136 (2012) method is used.

Preventive measures in place

Controls are in place by the Federal Agency in case of notification.

Control program/mechanisms

The control program/strategies in place

Notification is mandatory since 1/3/2004 (Ministerial Decree on mandatory notification in the food chain of 22/1/2004). For enterohemorrhagic E. coli, absence in 25g in ready-to-eat food putted on the market is mandatory. Laboratories have to inform the Federal Agency in case of positive sample.

Measures in case of the positive findings or single cases

Meat from positive carcasses is traced back, destroyed or transformed into cooked meat products.

Measures to be taken in the case of a non-compliant result:

- Notification of the producer or importer
- Possibility of a counter analysis
- Destruction of the non compliant batch or single sample
- Further investigation: additional sampling, possible recall, RASFF, ...

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 - carcase - at slaughterhouse - Surveillance	PRI 001	Objective sampling	Official sampling	food sample > carcase swabs	Domestic	ISO/PRF TS 13136	Single	1600 cm2	453	4	1
Meat from bovine animals - fresh - at processing plant - Surveillance	TRA 305	Objective sampling	Official sampling	food sample > meat	Domestic	ISO 16654:2001	Batch	25g	374	2	2
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant - Surveillance	TRA 304	Objective sampling	Official sampling	food sample > meat	Domestic	ISO 16654:2001	Batch	25g	297	0	0
Milk, cows' - raw milk - intended for direct human consumption - at farm - Surveillance	DPA 013	Objective sampling	Official sampling	food sample > milk	Domestic	ISO 16654:2001	Batch	25 ml	40	0	0
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm - Surveillance	PRI 008	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	12	0	
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance	DIS 818	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	48	0	
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at farm - Surveillance	PRI 008	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	30	0	
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	TRA 133	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	50	1	1
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance	DIS 818	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	51	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
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance	PRI 008	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	8	0	
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	TRA 133	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	45	0	
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance	DIS 818	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	45	0	
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance	PRI 008	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	10	1	1
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	TRA 133	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	8	0	
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance	DIS 818	Objective sampling	Official sampling	food sample	Unknown	ISO 16654:2001	Batch	25 g	80	0	
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at farm - Surveillance	PRI 009	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	89	0	
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at farm - Surveillance	PRI 025	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	35	0	
Fruits and vegetables - pre-cut - at retail - Surveillance	DIS 813	Objective sampling	Official sampling	food sample	Domestic	ISO 16654:2001	Batch	25 g	114	0	
Meat from bovine animals - meat preparation - intended to be eaten raw - at retail - Surveillance	DIS 815	Objective sampling	Official sampling	food sample	Unknown	ISO 16654:2001	Batch	25 g	582	1	1

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
Milk, cows' - raw milk - intended for direct human consumption - at retail - Surveillance	DIS 837	Objective sampling	Official sampling	food sample	Unknown	ISO 16654:2001	Batch	25 ml	8	0	
Spices and herbs - at retail - Surveillance	DIS 841	Unspecified	Official sampling	food sample	Unknown	ISO 16654:2001	Batch	25 g	150	0	
Vegetables - non-pre-cut - at retail - Surveillance	DIS 841	Unspecified	Official sampling	food sample	Unknown	ISO 16654:2001	Batch	25 g	560	0	

	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat from bovine animals - carcase - at slaughterhouse - Surveillance	3	
Meat from bovine animals - fresh - at processing plant - Surveillance		
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant - Surveillance		
Milk, cows' - raw milk - intended for direct human consumption - at farm - Surveillance	0	
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm - Surveillance		
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail - Surveillance		

Table VT E. coli in food

	Verotoxigenic E. coli (VTEC) - VTEC non- O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at farm - Surveillance		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at farm - Surveillance		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail - Surveillance		

Table VT E. coli in food

	Verotoxigenic E. coli (VTEC) - VTEC non- O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at farm - Surveillance		
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at farm - Surveillance		
Fruits and vegetables - pre-cut - at retail - Surveillance		
Meat from bovine animals - meat preparation - intended to be eaten raw - at retail - Surveillance	1	
Milk, cows' - raw milk - intended for direct human consumption - at retail - Surveillance		
Spices and herbs - at retail - Surveillance		
Vegetables - non-pre-cut - at retail - Surveillance		

Footnote:

For the VTEC O157 analytical method ISO 16654:2001 is used, for the VTEC non-O157, analytical method ISO/PRF TS 13136 (2012) is used.

2.4.3 Escherichia coli, pathogenic in animals

A. Verotoxigenic Escherichia coli in cattle (bovine animals)

Monitoring system

Sampling strategy

There was no sampling strategy for VTEC in cattle in 2012. Diagnostic veterinary laboratories send E. coli strains to the NRL E. coli, AH for diagnostic reasons (antimicrobial susceptibility testing, pathotyping) and on a voluntary basis.

Results of the investigation

A total of 285 E. coli from cattle were PCR typed for the presence of virulence genes in 2012. Eight isolates were identified as VTEC: 6 stx1 eae, one stx2 eae and one stx1 (negative for eae). No serotype data are available.

2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1 General evaluation of the national situation

A. Tuberculosis general evaluation

History of the disease and/or infection in the country

Zoonotic tuberculosis (*Mycobacterium bovis*).

Tuberculosis in humans caused by *M. bovis* is clinically indistinguishable from tuberculosis caused by *M. tuberculosis*.

In the past, the most important way of transmission of *M. bovis* for humans was the consumption of raw milk or raw milk products from infected cattle. Industrial heating production methods or pasteurization of raw milk did stop this way of transmission to humans.

Nowadays tuberculosis in humans caused by *M. bovis* is rare. In regions where *M. bovis* infections in cattle are largely eliminated, only few residual cases occur among elderly persons as a result of the reactivation of dormant *M. bovis* within old lesions. Also among migrants from high-prevalence countries, infections with *M. bovis* are diagnosed.

Agricultural workers may acquire infection by *M. bovis* by inhaling cough aerosols from infected cattle and may subsequently develop typical pulmonary or genito-urinary tuberculosis. Cervical lymphadenopathy, intestinal lesions, chronic skin tuberculosis (lupus vulgaris) and other non-pulmonary forms are also particularly common as clinical symptoms.

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

Recent actions taken to control the zoonoses

The surveillance program of tuberculosis is based on Directive 64/432/EEC, which is implemented and adapted in National legislation since 1963 and last modified by the Royal Decree of 17 October 2002.

The control implies skin testing of animals at the occasion of trade and intensive testing of infected and contact farms in consequence of a confirmation of a bovine TB suspicious case (tracing-on and tracing-back of all contact animals).

Systematic ante- and post mortem examination at the slaughterhouse are performed.

The Federal Agency for the Safety of the Food chain is informed about any doubtful or positive result of the skin test of bovines and may decide to re-examine (additional tests e.g. comparative tuberculin test, interferon-gamma test) the animals or to kill them for additional analysis (test & slaughter strategy). In case a "TB suspicious" lesion is detected, a tissue sample is sent to the National Reference Laboratory for analysis. Consequently, if *Mycobacterium bovis* suspicion is confirmed by analysis, all animals in the herd of origin are skin tested and a complete epidemiological investigation is realised. The total herd is considered as the 'epidemiological unit'.

Isolation of *M. bovis* and biochemical testing is exclusively performed in the National Reference Laboratory where also IFN-gamma, PCR and molecular typing by means of RFLP, spoligotyping or more recently MIRU-VNTR are done to support the epidemiological investigations and to eventually prove the link between different cases.

Suggestions to the European Union for the actions to be taken

In case a holding is infected and if by epidemiological investigation and tracing-back, animals were found to be exported to another country, the Chief Veterinary Officer of the country of destination has to be

informed about the outbreak in the country of origin. This alert can help to rapidly detect an infection in the concerned holding of destination abroad.

Monitoring of the type of strains circulating in each country could contribute to the understanding of the temporal-spatial spread of some specific strains between different countries and could possibly bear some epidemiological links between different outbreaks.

2.5.2 Tuberculosis, mycobacterial diseases in humans

A. Tuberculosis due to *Mycobacterium bovis* in humans

Results of the investigation

2.5.3 Mycobacterium in animals

A. Mycobacterium bovis in bovine animals

Status as officially free of bovine tuberculosis during the reporting year

The entire country free

Belgium is officially free of bovine tuberculosis since the 25th of June 2003 (Commission Decision 2003/467/EC)

Free regions

All regions are officially free of bovine tuberculosis for the reporting year.

Monitoring system

Sampling strategy

Surveillance system.

The control of tuberculosis is based on Council Directive 64/432/EEC, which is implemented and adapted in National legislation since 1963 and was last modified by the Royal Decree of 17 October 2002.

The surveillance program implies:

- skin testing of animals at purchase by the veterinarian responsible for the epidemiological sanitary situation of the holding (contract between farmer and veterinarian);
- skin testing in case of a suspected/infected bovine of all animals of the holding
- skin testing of all 'contact' animals and herds (tracing-on and tracing-back);
- systematic ante- and post-mortem examination at the slaughterhouses, transmission to the National Reference Laboratory of all "TB suspicious" lesions for further analysis.

Isolation of *M. bovis* and typing is performed at the National Reference Laboratory CODA-CERVA. Also IFN-gamma, PCR and molecular typing by means of RFLP, spoligotyping and more recently MIRU-VNTR are realised at the NRL.

Frequency of the sampling

Frequency of testing depends on:

- the introduction of new animals into a herd (mandatory examination at purchase)
- the results of tuberculin testing
- the detection of suspected bovines
- the detection of infected bovines
- the epidemiological investigation related to suspected or infected animals or herds (tracing-on and tracing-back)
- the follow-up testing of infected and/or eradicated herds during 5 years after partial or total stamping-out.

Type of specimen taken

Organs/tissues: lesions, lymph nodes, lungs

Blood

Methods of sampling (description of sampling techniques)

Tuberculin skin testing: single (bovine tuberculin) or comparative (bovine/avian tuberculin) testing.

Blood sampling: interferon-gamma tests

Laboratory examination of all suspicious lesions by culture: isolation and identification

Organs: lymph nodes, lungs, ...

Case definition

- A 'bovine' is defined as infected with bovine tuberculosis if the animal is positive by skin testing or if *Mycobacterium bovis* is isolated by culture or confirmed by laboratory analysis (PCR).
- A 'holding' is defined as infected if *Mycobacterium bovis* was isolated from an animal of the holding.

Diagnostic/analytical methods used

- Simple skin test with bovine tuberculin
- Comparative skin test with bovine and avian tuberculin
- Ziehl-Neelsen coloration
- Culture for isolation
- Interferon-gamma
- PCR on lesions / organs
- PCR on culture
- RFLP typing
- Spoligotyping
- MIRU-VNTR

Vaccination policy

Vaccination is prohibited by Royal Decree of 17 October 2002.

Control program/mechanisms

The control program/strategies in place

National surveillance program by the Competent Authority (FASFC) on mandatory legal base.

Recent actions taken to control the zoonoses

Draw special attention and focus on the post-mortem examination of slaughtered animals;

Transmission for further analysis of any lesion that could be 'suspected' of tuberculosis to the National Reference Laboratory;

Culture of *M. bovis*, biochemical testing, PCR are performed on these 'suspicious' lesions;

Molecular typing by means of RFLP, Spoligotyping and more recently MIRU-VNTR are done systematically on all isolates to support the epidemiological investigations and to eventually prove the link between different cases or outbreaks.

Suggestions to the European Union for the actions to be taken

In case of export of bovines, inform the Chief Veterinary Officer of the Member state of destination if tuberculosis has been detected in a holding of the Member State of origin after the date of export. This information can result in an early detection or can avoid a possible further contamination in the Member State of destination.

Measures in case of the positive findings or single cases

If *M. bovis* is suspected, all animals in the herd of origin are skin tested, the herd is considered as the epidemiological unit. A complete epidemiological investigation is performed. By tracing-back and tracing-on all animals of 'contact' holdings are examined by skin testing. If any doubtful or positive result of the skin test is detected, the FASFC may decide to re-examine the animals (additional tests e.g. comparative skin testing with avian and bovine tuberculin and/or Interferon-gamma testing) or to kill the reactors (test slaughter) for additional analysis. In case a suspicious lesion is detected at post-mortem examination, a sample is sent to the National reference laboratory for analysis. Consequently, if *Mycobacterium bovis* is isolated, all skin test positive animals during successive testing are mandatory slaughtered. If many

bovines are reacting positive to skin testing, the FASFC can decide that all animals of the holding must be mandatory slaughtered. In most breakdowns a sanitation plan is established taking into account the epidemiological situation. After stamping-out, new restocked animals are tested during 5 consecutive years by annual skin testing to prove the TB free status of the holding.

Notification system in place

Animal Health Law of 24 March 1987 Chapter III and Royal Decree of 25 April 1988 (list of all notifiable animal diseases).

Results of the investigation

In 2001, a total of 23 infected holdings were notified. In total 792 animals reacted after tuberculinisation. In 2002, a total of 13 infected holdings were notified. A total of 799 animals reacted after tuberculinisation. Stamping-out was performed in 6 herds.

In 2003, a total of 7 infected holdings were notified. Stamping out was done in 5 herds. A total of 409 animals reacted after tuberculinisation. This number corresponds to the intensive testing of infected and contact farms. In total 3.799 herds and 337.260 animals were included in epidemiological investigations. The Federal Agency for the Safety of the Food Chain, the Competent Authority, instructed the slaughter of 1014 animals.

In 2004, a total of 8 infected holdings were detected. In total 229 bovines were slaughtered in consequence of the stamping-out of 3 infected herds.

In 2005, a total of 5 infected holdings were detected. All these herds were eradicated by stamping-out in execution of a TB sanitation plan. In total 752 animals were slaughtered. The carcasses of only 2 animals did have to be destroyed due to general dispersed TB lesions.

In 2006, a total of 8 infected holdings were detected. Seven of these were eradicated by stamping out. In total 1102 animals were slaughtered. A follow-up of the other infected holding is performed after test-slaughter of a few positive reactors, since then all results of tuberculin tests on all the animals of the herd at regular intervals are negative.

In 2007, a total of 5 infected holdings were detected. Three of these were eradicated by stamping-out. In total 487 animals were slaughtered. In the other two infected holdings, partial slaughter and intense follow-up by tuberculin testing was performed.

In 2008, a total of 12 infected holdings were detected. In total 812 animals were slaughtered. Finally 66 animals were detected positive in bacteriological examination.

In 2009, 2 infected holdings were detected. One holding was eradicated by stamping-out. On the other holding, partial slaughter and intense follow-up by tuberculin testing was performed.

In 2010 no infected holding was detected.

In 2011, 1 infected holding was discovered. All animals were slaughtered.

In December 2012, 1 infected holding was detected. All animals of the holding were slaughtered. In consequence 148 'contact' herds were followed-up by tuberculin testing in 2012 and 2013.

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

Number of infected herds since 2000

2000 : 24

2001 : 23

2002 : 13

2003 : 7

2004 : 8

2005 : 5

2006 : 8

2007 : 5

2008 : 12

2009 : 2

2010 : 0

Belgium - 2012 Report on trends and sources of zoonoses

2011: 1

2012: 1

Additional information

B. Mycobacterium bovis in farmed deer

Monitoring system

Sampling strategy

Sampling in case of suspicious TB lesions during post-mortem examinations of "wild" and "farmed" deer at slaughterhouse/ at game handling establishment.

Frequency of the sampling

Depends on the number of hunted/slaughtered animals and the detection of suspicious lesions at post-mortem examination.

Type of specimen taken

Suspicious lesions of lungs, lymph nodes, ... at slaughterhouse or game handling establishment.

Methods of sampling (description of sampling techniques)

TB suspicious tissues: lymph nodes, lungs, ...

Case definition

An animal is positive if *Mycobacterium bovis* is isolated by culture or confirmed by laboratory analysis.

Diagnostic/analytical methods used

- Ziehl-Neelsen coloration
- Culture for isolation
- Interferon-gamma
- PCR on lesions / organs
- PCR on culture

Control program/mechanisms

The control program/strategies in place

Monitoring is done by:

- systematic post-mortem examination at the slaughterhouses/game handling establishment
- post-mortem examination at autopsy of hunted or killed "wild" deer by accident in the University Center of Liège, Veterinary Medicine Faculty.

In case of suspected TB lesions, tissue samples are sent to the National Reference Laboratory for additional analysis to confirm the suspicion.

Recent actions taken to control the zoonoses

Surveillance program in wildlife.

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

No *Mycobacterium bovis* was detected in "wild/hunted" or "farmed" deer.

Table Tuberculosis in other animals

[illegible]

Table Tuberculosis in farmed deer

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

Region	Total number of existing farmed deer		Free herds		Infected herds		Routine tuberculin testing		Number of tuberculin tests carried out before the introduction into the herds	Number of animals with suspicious lesions of tuberculosis examined and submitted to histopathological and bacteriological examinations	Number of animals detected positive in bacteriological examination
	Herds	Animals	Number of herds	%	Number of herds	%	Interval between routine tuberculin tests	Number of animals tested			
Belgique-België	2605	9591	2605	100	0	0	no routine test	0	0	37	0
Total : ¹⁾	2605	9591	2605	100	0	0	N.A.	0	0	37	0

Comments:

¹⁾ N.A.

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			
Belgique-België	32475	2603148	32474	100	1	0	others, please specify	272160	375000	71	9
Total : ¹⁾	32475	2603148	32474	100	1	0	N.A.	272160	375000	71	9

Comments:

¹⁾ N.A.

Footnote:

Number of tuberculin tests carried out: Tuberculin tests are mandatory carried out after introduction of bovines into the new herd during the quarantine period obligatory after purchase. The total number of tuberculin tests after introduction is 375000.

2.6 BRUCELLOSIS

2.6.1 General evaluation of the national situation

2.6.2 Brucella in foodstuffs

Table Brucella in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Brucella	B. abortus	B. melitensis	B. suis
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance	FASFC	Census	Industry sampling	animal sample > milk	Domestic	Batch	27603	1			
	Brucella spp., unspecified	B. suis - biovar 2									
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - Surveillance		1									

Footnote:

In consequence of the Brucellosis breakdowns in March-May 2012, all dairy herds were tested 3 times by an ELISA of tankmilk. During the first round of tankmilk testing, one herd was detected as infected by Brucella suis biovar 2 after non conform result of tankmilk, serological follow-up testing and test&slaughter strategy. All other results were negative.

2.6.3 Brucella in animals

A. Brucella abortus in bovine animals

Status as officially free of bovine brucellosis during the reporting year

The entire country free

Belgium is officially free from bovine brucellosis since the 25th of June 2003 (Commission Decision 2003/467/EC)

Free regions

Belgium remained officially free of bovine brucellosis during this reporting year.

Additional information

End 2010 a brucellosis breakdown herd was detected after analyzing an abortion. The infected herd was totally depopulated. Extensive epidemiological investigations and important serological follow-up of contact herds in 2010 and 2011 could not give any indication on the origin of the infection neither could detect any additional other infected herd.

In March 2012, again a breakdown of brucellosis was detected after analysis of an abortion. No epidemiological link could be found with the breakdown of 2010. Tracing-back and an epidemiological inquiry lead to the detection of 4 other secondary breakdowns linked to the primary case. All these 5 brucellosis breakdown herds were infected with an identical *Brucella abortus* biovar 3. Another infected herd of brucellosis was detected by analysis of tankmilk and an infection with *Brucella suis* biovar 2 was confirmed. This breakdown could be considered as an isolated case. This biotype is endemic in Belgian wildboar population. Also bovines are susceptible to this biovar.

Finally there was a stamping-out of all the animals of the infected herds.

Monitoring system

Sampling strategy

Since Belgium is officially free of bovine brucellosis, the eradication program has been changed in a surveillance program. Beef cattle older than 2 years were monitored once every three years by means of serological tests. The herds for serological sampling and examination were selected by their geographical location. Dairy cattle were checked at least 4 times a year via tank milk (milk ring test).

Furthermore, all animals were tested at trade (purchase) on the herd of arrival.

Each abortion or premature birth in animals at risk must be subject to compulsory notification to the Federal Agency for the Safety of the Food Chain, and be tested for brucellosis. Aborting females should be kept in isolation until the results of the analysis and the investigation exclude a *Brucella* infection.

Pooled tank milk was examined by means of a milk ring test.

For animals older than 2 years of dairy herds, serology (i.e. micro-agglutination as screening test; in case of a positive result, an indirect ELISA test is performed) is used if no sufficient milk ring tests were performed (at least 4 tests a year).

Bacteriological examination is done when serological and/or epidemiological suspicion is present.

An animal is legally suspected of brucellosis in case of a positive ELISA. If, according to the epidemiology and the results of the blood test, an animal or herd is found to be at risk, a bacteriological investigation always takes place. Hence, a brucellosis animal is defined as an animal in which *Brucella abortus* has been isolated, and a cattle holding is considered as an outbreak herd if one of the animals is positive for brucellosis by bacteriological examination.

In 2009, a study was realized to evaluate the current national surveillance program of bovine brucellosis. If

a Member State has maintained the officially free status of brucellosis for at least 5 consecutive years, the existing surveillance program can be re-evaluated and some modifications on the sampling design are allowed on condition of further proof of freedom of disease (Council Directive 64/432/EEC). The scientific veterinary experts used risk-based models to evaluate different scenarios within the current surveillance program and the study was also based on a statistical confidence level approach. This methodology has underlined a few important features of the current brucellosis surveillance program. The study showed that in order to obtain a 99% confidence level to prove freedom of disease consistently an important decrease in total number of tested animals can be proposed (500.000 to 30.000 tests a year). The study also clearly indicated that the best approach is to test bovines imported from officially free or non-officially free Member States of *Brucella* spp., to test animals at purchase in consequence of national trade as well as to analyze aborting animals in order to early detect infection. Regarding the passive surveillance (abortions), the study indicated there is a need to increase the number of analyzed abortions. Also the mandatory analysis for brucellosis at purchase of new animals changed into a voluntary approach. A new surveillance program has been applied from the end of 2009 on.

In 2012 surveillance was focused on following risk categories:

- import of non officially free MSs or Third Countries at the moment of trade and follow-up testing during 3 consecutive years during the winterscreening (targeted selection)
- at random selection of 450 bovine herds for serological investigation of 40 animals per herd divided in 4 different age categories: 10 animals of 6-12 months of age, 10 animals of 12-24 months of age and 20 animals older then 24 months.
- number of analysis of bovines of national trade at purchase
- at random selection of 750 bovine herds of all herds that did not declare any abortion during the passed year. On these herds a maximum of 20 animals are randomly selected for serological analysis of brucellosis.
- due to the brucellosis outbreaks during the first months of 2012, from June to December 2012 a serological examination became again mandatory at purchase of animals older then 18 months of age and a mandatory analysis before participation to an animal fair, show or market. Also a general screening of dairy herds by an ELISA of tankmilk was realised. In 2012, 3 rounds of tank milk analysis of all dairy herds were organized. In total 27.603 tankmilk samples were analyzed by ELISA. These analyses finally detected the breakdown herd due to *Brucella suis* biovar 2.

Frequency of the sampling

- import of non officially free MSs or Third Countries at the moment of trade: all imported animals over 12 months of age
- import of non officially free MSs or Third Countries follow-up testing during winterscreening for 3 consecutive years of all imported animals over 24 months of age
- at random selection of 450 bovine herds: at random selection of at maximum 40 female animals
- bovines of national trade at purchase: at random selection, limited number of analysis
- at random selection of 750 bovine herds where no abortion was declared/analyzed during the last year, at random selection of 20 female animals
- abortion protocol: examination of abortions for brucellosis and some other diseases which can induce an abortion in bovine animals (IBR, BVD, Neoplasmose, ...).

Type of specimen taken

Blood
Tankmilk

Methods of sampling (description of sampling techniques)

Blood sampling

Case definition

An animal is defined as infected if *Brucella* spp. has been isolated and identified by culture.

A herd is defined as infected if one of its animals is positive by bacteriological examination for Brucellosis.

Diagnostic/analytical methods used

- Micro agglutination test
- ELISA blood or tank milk
- Complement Fixation Test
- Rose Bengale Test
- PCR
- Stamp/Ziehl Neelsen coloration
- Culture

Vaccination policy

Vaccination is prohibited in Belgium since 1992.

Control program/mechanisms

The control program/strategies in place

National mandatory surveillance program organized by the FASFC.

Measures in case of the positive findings or single cases

In case of a positive result in the micro-agglutination test the same blood sample is tested with an ELISA.

If this indirect ELISA is positive, this result has to be confirmed by a blocking ELISA at the NRL. If this confirmatory test is positive, the animal is considered as infected and is compulsory slaughtered (test slaughter) for additional analysis to detect a possible *Brucella* infection.

Notification system in place

Animal Health Law of 24 March 1987 Chapter III, Royal Degree of 25 April 1988 (list of all notifiable diseases)

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

An intensified bovine brucellosis control program started in Belgium in 1988. In case of active brucellosis, i.e. excretion of *Brucella*, the plan consisted in the culling of all animals of the infected herd (total depopulation). Culled bovines were compensated for based on the replacement value of the animals. In March 2000, the last case of bovine brucellosis was identified before obtaining the officially brucellosis free status in 2003.

In case of positive serological reactors the Federal Agency for the Safety of the Food Chain instruct follow-up testing or 'test slaughter' for additional analyses. These analyses could not confirm brucellosis. To reduce the number of FPSR (False positive serological reactors) to be slaughtered, the micro-agglutination test has been used as for routine testing whereas the indirect Elisa is accepted as a confirmatory test. This approach avoids the undeserved test slaughter of false positive reacting animals. In March 2012 a breakdown of bovine brucellosis was detected at a herd in the province of Namur. Bovine brucellosis was detected by analysis of an abortion and serology. Serological examination of the cow and bacteriological examination of the fetus indicated a *Brucella* infection that was confirmed and typed as *Brucella abortus* biovar 3.

Extensive epidemiological investigation designated 291 contact herds for follow-up by serology.

Serological analysis of all contact herds detected another 4 breakdowns of *Brucella abortus* biovar 3. After test & slaughter of 118 animals of the breakdown herds, bacteriological examination was positive for 11 animals. To follow-up this Brucellosis incidence, 3 rounds of blood sampling took place in 2012.

Respectively 538, 455 and 176 holdings and 40.780, 30.407 and 438 animals were sampled where 39, 5 and 0 blood samples were positive by a confirmatory ELISA. In consequence, 123 bacteriological examinations took place after test & slaughter of the animals, only 1 culture was positive and finally typed as *Brucella suis* biovar 2.

In addition to the serological follow-up of these contact herds by blood sampling, all Belgian dairy herds were tested three times by an ELISA of tank milk. During these 3 rounds of surveillance by tankmilk, respectively 8656, 8634 and 8497 herds were sampled and 23, 28 and 20 tank milk samples gave a non conform result. The dairy herds were blood sampled and finally only one bovine had to be mandatory slaughtered for examination by culture. *Brucella suis* biovar 3 was isolated from this animal.

Additional information

B. Brucella melitensis in goats

Status as officially free of caprine brucellosis during the reporting year

The entire country free

Belgium is officially free of *B. melitensis* since 29 March 2001 (Commission Decision 2001/292/EC).

Free regions

Belgium is officially free of caprine brucellosis during the reporting year.

Monitoring system

Sampling strategy

Serum samples taken in the framework of a national monitoring program for Maedi-Visna/CAE and at export were examined for *Brucella melitensis* specific antibodies by means of an ELISA.

Sheep and goats were tested for brucellosis by indirect ELISA (iELISA) at the NRL CODA-CERVA. All positive samples in the ELISA were supplementary tested by the Rose Bengal Test (RBT) and Complement Fixation Test (CFT) as confirmatory tests. Animals that were positive in the two confirmatory tests or that could not be analyzed and/or interpreted in RBT and/or CFT were sampled a second time.

Type of specimen taken

Blood

Methods of sampling (description of sampling techniques)

Blood sampling

Case definition

A goat is defined as infected with brucellosis if positive in all three tests: iElisa, Rose Bengal test and Complement Fixation test and isolation of *Brucella melitensis* by culture after test slaughter.

Diagnostic/analytical methods used

Complement Fixation Test CFT

Rose Bengal Test RBT

Indirect ELISA

Culture for isolation

Notification system in place

Animal Health Law of 24 March 1987 Chapter III and Royal Decree of 25 April 1988 (list of notifiable animal diseases)

Results of the investigation

At the NRL, 6.329 caprine/ovine serum samples were tested. The results confirmed those of previous years, i.e. the absence of any epidemiological or bacteriological evidence of caprine/ovine brucellosis in Belgium.

C. Brucella melitensis in sheep

Status as officially free of ovine brucellosis during the reporting year

The entire country free

Belgium is officially free from *B. melitensis* since 29 March 2001 (Commission Decision 2001/292/EC).

Free regions

Belgium is officially free of ovine brucellosis during the reporting year.

Monitoring system

Sampling strategy

Serum samples taken in the framework of a national monitoring program for Visna-Maedi/CAE and at export were examined for *Brucella melitensis* specific antibodies by means of an iELISA. Positive samples were subsequently tested in Rose Bengal and in complement fixation test.

Sheep and goats sera were tested for brucellosis by indirect ELISA (iELISA) at the NRL. All positive samples in the ELISA were then tested by the Rose Bengal Test (RBT) and Complement Fixation Test (CFT) as confirmatory tests. Animals that were positive in the two confirmatory tests or that could not be analyzed and/or interpreted in RBT and/or CFT were sampled a second time.

Type of specimen taken

Blood

Case definition

A sheep is defined as infected with brucellosis if positive in all three tests: the Elisa, the Rose Bengal test and the Complement Fixation test and isolation of *Brucella melitensis* by culture.

Diagnostic/analytical methods used

- Indirect ELISA
- Rose Bengal Test RBT
- Complement Fixation Test CFT
- Culture for isolation
- Brucellin skin test (BST)

Notification system in place

Animal Health Law of 24 March 1987 Chapter III and Royal Decree of 25 April 1988 (list of notifiable animal diseases).

Results of the investigation

At the National Reference Laboratory, 6.329 caprine/ovine serum samples were tested. The results confirmed those of previous years, i.e. the absence of any epidemiological or bacteriological evidence of caprine/ovine brucellosis in Belgium.

D. B. suis in animal

Monitoring system

Sampling strategy

Serological screening for *Brucella* is done for breeding pigs that are gathered (at a fair for example), at artificial insemination centers and in animals intended for trade. The methods used are Rose Bengal test (RBT), Slow Agglutination test (SAT) according to Wright, Complement Fixation test (CFT) and ELISA. Bacteriological examination for *Brucella* and *Yersinia* is done in case of positive serology.

Regularly, false positive serological reactions are reported. These are due to a *Yersinia enterocolitica* O9 infection and are confirmed by *Yersinia enterocolitica* O9 isolation in the absence of *Brucella* spp. isolation. *B. suis* biovar 2 may be isolated from wild boars (*Sus scrofa*). The infection seems to be endemic in wild boar in Belgium. *B. suis* biovar 2, circulating among wild boars, shows only limited pathogenicity for humans, if pathogenic at all.

The domestic pig population is free of brucellosis (last *Brucella* isolation in pigs in Belgium was in 1969).

Methods of sampling (description of sampling techniques)

Blood sampling

Tonsils

Spleen

Case definition

An animal is positive if *Brucella suis* is isolated by culture or typed by additional laboratory analysis.

Diagnostic/analytical methods used

Rose Bengal test RBT

Complement fixation test CFT

Indirect ELISA

Bacteriological examination

Control program/mechanisms

The control program/strategies in place

Regional monitoring program .

Since 2002, an annual surveillance program is organized by the veterinary faculty of the University of Liège (Walloon Region funds) in collaboration with the National Reference Laboratory (CODA CERVA) with the aim to analyze brucellosis in wild boars (*Sus scrofa*) and lagomorphs in the south of Belgium.

Blood samples and organs of hunted and/or dead animals were analyzed in order to follow-up the seroprevalence and to identify bacteriological isolates of *Brucella* in these species.

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

Due to the *B. abortus* incidence in 2012, serological follow-up of all bovine dairy herds by tank milk detected of 1 infected herd with *B. suis* biovar 2. All animals were slaughtered and all 64 contact herds were blood sampled. No other herds were detected with a *B. suis* infection.

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 microbiologically	Number of animals positive microbiologically	Number of suspended herds
Belgique-België	39478	244159	39478	100	0	0		6329	0	0	0	0	0	0
Total : ¹⁾	39478	244159	39478	100	0	0	0	6329	0	0	0	0	0	0

Comments:

¹⁾ N.A.

Footnote:

The number of herds tested is not available.

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.

	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
Region																		Sero logically	BST		
Belgique-België	32475	2603148	32469	99.98	6	.02	14513	270627	5	25787	27603	1	11324	1	1	71625	6	44	0	1475	30
Total : ¹⁾	32475	2603148	32469	99.98	6	.02	14513	270627	5	25787	27603	1	11324	1	1	71625	6	44	0	1475	30

Comments:

¹⁾ N.A.

Footnote:

1 breakdown herd was detected by analysis of an abortion. Another 4 breakdowns were detected by serological follow-up of all contact herds. These 5 herds were infected with Brucella abortus biovar 3. Another breakdown was detected by a surveillance of all dairy herds by an ELISA of tankmilk. This dairy herd was infected with Brucella suis biovar 2. Due to this brucellosis incident, a lot of microbiological testing by culture was realised on slaughtered animals. Of a total of 1475 cultures, 29 isolates were identified as Brucella abortus biovar 3 and 1 isolate was identified as Brucella suis biovar 2. The rest of the cultures were negative for isolation of Brucella spp.

2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

A. Yersinia enterocolitica general evaluation

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

Only a few strains of *Y. enterocolitica* cause illness in humans. The major animal reservoir for *Y. enterocolitica* strains that cause human illness are pigs but other strains are also found in many other animals including rodents, rabbits, sheep, cattle, horses, dogs, and cats. In pigs, the bacteria are most likely to be found on the tonsils. Infection is most often acquired by eating contaminated food, especially raw or undercooked pork products. Drinking contaminated unpasteurized milk or untreated water can also transmit the infection.

2.7.2 Yersiniosis in humans

A. Yersiniosis in humans

Relevance as zoonotic disease

Y. enterocolitica is a relatively infrequent cause of diarrhea and abdominal pain. Infection with *Y. enterocolitica* occurs most often in young children. Common symptoms in children are fever, abdominal pain, and diarrhea, which is often bloody. Symptoms typically develop 4 to 7 days after exposure and may last 1 to 3 weeks or longer. In older children and adults, right-sided abdominal pain and fever may be the predominant symptoms, and may be confused with appendicitis. In a small proportion of cases, complications such as skin rash, joint pains or spread of bacteria to the bloodstream can occur.

Only a few strains of *Y. enterocolitica* cause illness in humans. The major animal reservoir for *Y. enterocolitica* strains that cause human illness are pigs but other strains are also found in many other animals including rodents, rabbits, sheep, cattle, horses, dogs, and cats. In pigs, the bacteria are most likely to be found on the tonsils. Infection is most often acquired by eating contaminated food, especially raw or undercooked pork products. Drinking contaminated unpasteurized milk or untreated water can also transmit the infection.

2.7.3 Yersinia in foodstuffs

Table Yersinia in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Yersinia	Y. enterocolitica	Y. pseudotuberculosis
Meat from pig - carcase - at slaughterhouse	PRI 002	Objective sampling	Official sampling	food sample > carcase swabs	Domestic	Single	600 cm2	56	0	0	
Meat from pig - minced meat - intended to be eaten cooked - at retail	DIS 888	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	25	5	5	
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail	DIS 888	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	12	2	2	
Meat from bovine animals - minced meat - intended to be eaten raw - at retail	DIS 823	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	33	5	5	
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at retail	DIS 888	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	8	0		
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail	DIS 823	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	4	0		
Meat from pig - minced meat - intended to be eaten raw - at retail	DIS 823	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	9	1	1	

	Yersinia spp., unspecified	Y. enterocolitica - O:3	Y. enterocolitica - O:9	Y. enterocolitica - unspecified
Meat from pig - carcase - at slaughterhouse				
Meat from pig - minced meat - intended to be eaten cooked - at retail				5

Table Yersinia in food

	Yersinia spp., unspecified	Y. enterocolitica - O:3	Y. enterocolitica - O:9	Y. enterocolitica - unspecified
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail				2
Meat from bovine animals - minced meat - intended to be eaten raw - at retail				5
Meat from bovine animals and pig - minced meat - intended to be eaten cooked - at retail				
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail				
Meat from pig - minced meat - intended to be eaten raw - at retail				1

2.7.4 Yersinia in animals

A. Yersinia enterocolitica in pigs

Monitoring system

Frequency of the sampling

Animals at slaughter (herd based approach)

Sampling distributed evenly throughout the year

Type of specimen taken

Animals at slaughter (herd based approach)

Surface of carcasses

2.8 TRICHINELLOSIS

2.8.1 General evaluation of the national situation

A. Trichinellosis general evaluation

History of the disease and/or infection in the country

Since 1940, the Competent Authority did organize analysis for *Trichinella* in pigs at the slaughterhouses. The analysis is generalized since 1991. *Trichinella* has not been detected in carcasses of pigs and horses produced for human consumption in Belgium. One autochthonous human case, probably caused by a home raised wild boar occurred in 1979.

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

Trichinellosis is virtually absent in Belgian domestic livestock. Since systematic controls of pigs and horses are done at slaughter (EU Directive 92/45/EEC) no positive case was found. The last outbreak in humans in Belgium occurred in 1979 following the consumption of meat from wild boar.

Increased monitoring in the last decade has shown that *Trichinella* spp. still circulate amongst wildlife, although both the prevalence and the intensities of infection are low.

EU Directive requires that also wild boars hunted in the EU for commercial purpose are examined for *Trichinella*. In Belgium each year about 10000 sport-hunted wild boars were tested, and recently those numbers are rising.

Until now, one animal, in 2004, originating from Mettet (province of Namur), was found to harbour a light infection. The larvae, isolated by artificial digestion were identified by PCR to be *Trichinella britovi*, a species previously not demonstrated in Belgium. *T. britovi* has sylvatic carnivores as main hosts. Even if wild boars are not the preferred host they can acquire the infection and consequently pass it to humans. Both *T. spiralis* and *T. britovi* have been associated with human infection.

One larva was recovered from a pooled sample (originating from three wild boars from a hunting party from Alle-sur-Semois) in 2007. Consecutive digestions could not reveal the causative animal, and unfortunately PCR failed to identify the *Trichinella* species.

One larva was recovered from the digestion of an individual wild boar in 2012.

The routine examination of wild boars devoted to the market has proved to be a good measure to protect the consumer against sylvatic trichinellosis.

In addition, monitoring of infection through examining sentinel animals, such as the fox, is recommended to access the prevalence of trichinellosis and to follow trends in time.

In december 2010, 318 foxes were examined by pooled digestion, they were all negative for *Trichinella* spp.

Winter 2011-2012, 524 wild animals were examined (507 foxes, 11 badgers, 2 cats, 1 raccoon and 3 marten) were examined. One larva was recovered from a pool of 20 animals (18 foxes and 2 badgers). Unfortunately the larva could not be identified to the *Trichinella* species level by PCR .

Winter 2012-2013, 540 wild animals were examined (511 foxes, 15 badgers, 1 wild cat, 8 raccoons, 4 beech marten and 1 European polecat). Three larvae were recovered from two pools of 20 foxes each.

Serological examination might be an alternative for muscle digestion in screening programs, but can not be used in safeguarding consumer's health in meat inspection.

An extra measure to protect the consumer is to eat meat of wild boar "well done", or to freeze the meat at

-20°C for 4 weeks. An important measure to avoid spreading of the infection among wildlife is not to leave offal of animal carcasses in the field after skinning.

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

The last outbreak in humans in Belgium occurred in 1979 following the consumption of meat from wild boar.

Recent actions taken to control the zoonoses

Monitoring of wildlife.

Routine examination of wild boars destined for human consumption

Monitoring of infection through examining sentinel animals such as the fox.

Recommendation to consume wild boar meat after freezing at -20°C for 4 weeks.

Recommendation to travellers not to import raw meats of unknown origin and of susceptible animals, e.g. home made sausages, and not to consume meats of unknown quality abroad.

Additional information

The status "negligible risk for *Trichinella* in slaughterpigs kept under industrial housing conditions" was granted by the EC to Belgium end December 2010.

2.8.2 Trichinellosis in humans

A. Trichinellosis in humans

Reporting system in place for the human cases

Trichinellosis is a notifiable disease in humans in Belgium

History of the disease and/or infection in the country

The only human case of *Trichinella* infection was in 1978. A person who had fattened two wild boars for his own consumption got infected by *Trichinella*. The two boars captured as wild piglets were enclosed for fattening. This person most probably was infected after consumption of the meat of his wild boars.

Epidemiological investigations in this case did not reveal the source of infection. All possible infectious 'sources' were taken into account (e.g. rodents etc.).

Description of the positive cases detected during the reporting year

No positive human case was detected during the reporting year.

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

There are no reports of autochthonously acquired *Trichinella* infections in Belgium

2.8.3 Trichinella in animals

A. Trichinella in horses

Monitoring system

Sampling strategy

Permanent surveillance at the slaughterhouses.

Frequency of the sampling

Every slaughtered animal is sampled.

Type of specimen taken

Diaphragm, tongue or masseter muscle.

Methods of sampling (description of sampling techniques)

Horse: 5 gram of diaphragm (or tongue, or masseter) for routine diagnosis, analyses on pooled samples, 10 to 25 gram for examination of individual samples.

Case definition

An animal is considered positive in case of detection and identification of *Trichinella* larvae in the muscle sample.

Diagnostic/analytical methods used

Artificial digestion method of collective or individual samples. The magnetic stirrer method for digestion of pooled samples as described in Commission Regulation (EC) No 2075/2005 was used on samples of 5 gram of muscles from horses.

Results of the investigation including the origin of the positive animals

No positive animals were detected this year.

Control program/mechanisms

The control program/strategies in place

Commission Regulation (EC) No 2075/2005 imposes systematic *Trichinella* examination of all slaughtered pigs, horses and wild boar and other wildlife animals by artificial digestion method of muscle before marketing.

Measures in case of the positive findings or single cases

Carcasses found positive are declared unfit for human consumption.

Notification system in place

Notification to the Federal Agency for the Safety of the Food Chain is compulsory for any positive test result.

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

No positive horses found in 2012, nor before.

B. Trichinella in pigs

Officially recognised regions with negligible Trichinella risk

Belgium was granted the status of negligible Trichinella risk at the end of 2010

Monitoring system

Sampling strategy

General

Permanent surveillance of all slaughtered pigs at the slaughterhouses in implementation of Commission Regulation (EC) No 2075/2005. Derogation for fattening pigs who do apply for the criteria set in the definition 'Region with negligible risk'

For regions with negligible Trichinella risk

Testing of wildlife (mainly foxes)

Frequency of the sampling

General

Systematic Trichinella examinations of all slaughtered pigs, with the exception of some fattening pigs who do apply for the criteria set in the definition 'Region with negligible risk'.

For regions with negligible Trichinella risk

Systematic Trichinella examinations of all slaughtered pigs, with the exception of some fattening pigs who do apply for the criteria set in the definition 'Region with negligible risk'.

Type of specimen taken

General

Diaphragm muscle, 1 gram for fattening pigs, 2 grams for sows and boars.

For regions with negligible Trichinella risk

Diaphragm muscle, 1 gram for fattening pigs, 2 grams for sows and boars. No samples are examined from some fattening pigs who do apply to the criteria set in the definition of 'Region with negligible risk'.

Methods of sampling (description of sampling techniques)

General

Fattening pigs: 1 gram of diaphragm muscle to be pooled (up to 100 animals in 1 pool)

Sows and boars: 2 grams of diaphragm muscle to be pooled (up to 50 animals in 1 pool)

For regions with negligible Trichinella risk

Still almost all pigs are sampled and tested, due to logistic reasons and export outside EU.

Case definition

General

An animal is considered positive in case of detection and identification of Trichinella larvae in the muscle sample.

For regions with negligible Trichinella risk

Same as general

Diagnostic/analytical methods used

General

Artificial digestion method of collected samples.(Reference method, annex I, chapter I) and Magnetic stirrer method for pooled sample digestion/'on filter isolation' and larva detection by a latex agglutination

test (equivalent method)

The analysis is done by artificial digestion: the magnetic stirrer method of pooled 100 gram sample as described in Commission Regulation (EC) No 2075/2005, reference method, 1 gram per fattening pig, 2 grams per sow and boar, and 5 grams per horse and wild boar.

Serology may be done in live pigs and for epidemiological studies and monitoring on wildlife.

For regions with negligible *Trichinella* risk

see general

Measures in case of the positive findings or single cases

Carcasses found positive are declared unfit for human consumption.

Notification system in place

Notification to the Federal Agency for the Safety of the Food chain is compulsory for any positive test result.

Results of the investigation including description of the positive cases and the verification of the *Trichinella* species

No positive cases were found in 2012

Fattening pigs raised under controlled housing conditions in integrated production system
all negative

Fattening pigs not raised under controlled housing conditions in integrated production system

all negative

Breeding sows and boars
all negative

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

Since 1992, when the European Union Council Directive requires that wild boars (*Sus scrofa*) hunted in EU for commercial purpose should be examined for *Trichinella*, the infection has only been detected three times in wild boars from Belgium.

There is serological evidence of the presence of anti-*Trichinella* antibodies in wildlife.

Wildlife monitoring did not reveal any larvae in winter 2010 (318 foxes examined), but yielded a larva from a pool of 20 wild animals (18 foxes and 2 badgers) in winter 2011-2012 (524 wild animals examined). Unfortunately, the larva could not be identified to the species level by PCR, nor could the individual animal be identified.

During winter 2012-2013 540 wild animals were examined and three larvae were recovered from two pools of 20 foxes each.

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	FASFC	Census	Official sampling	animal sample > organ/tissue	Domestic	Animal	11724297	0		
Pigs - breeding animals	FASFC	Census	Official sampling	animal sample > organ/tissue	Domestic	Animal		0		
Solipeds, domestic - horses - at slaughterhouse - Surveillance	FASFC	Census	Official sampling	animal sample > organ/tissue	Domestic	Animal	9199	0		
Wild boars - farmed - Surveillance	FASFC									
Wild boars - wild - Surveillance	FASFC	Census	Official sampling	animal sample > organ/tissue	Domestic	Animal	11691	2		2
Foxes - Monitoring	FASFC	Objective sampling	Official sampling	animal sample	Domestic	Animal	506	2		2

2.9 ECHINOCOCCOSIS

2.9.1 General evaluation of the national situation

A. Echinococcus spp. general evaluation

History of the disease and/or infection in the country

At the slaughterhouses, a small number of carcasses showing lesions of Echinococcus (cysts) are sometimes detected and notified to the Federal Agency for the Safety of the Food Chain. In case of positive findings, carcasses are partially or totally rejected and declared unfit for human consumption.

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

Echinococcosis is caused either by Echinococcus granulosus or Echinococcus multilocularis.

Echinococcus granulosus produces unilocular human hydatidosis. It is a small tapeworm (6 mm) that lives in the small intestine of domestic and wild canids. Sheep and cattle serve as intermediate hosts for the infection. Humans acquire infection by ingestion of typical taeniid eggs, which are excreted in the faeces of infected dogs: the oncospheres liberated from the eggs migrate via the bloodstream to the liver, lungs and other tissues to develop in hydatid cysts. Indigenous unilocular hydatidosis in man has been reported in Belgium.

Echinococcus multilocularis causes alveolar (multilocular) echinococcosis in humans. Foxes and dogs are the definitive hosts of this parasite and small rodents the intermediate hosts. In the liver of rodents the invasive larval stage has a multi-compartmented appearance containing many protoscolices. Ingestion of the eggs by humans can result in the development of invasive cysts in the liver. In Belgium, the percentage of infected foxes varies with the region, with a decreasing rate from the South-East to the North-West: e.g 33% in the Ardennes, 13% in the Condroz region and 2% in Flanders. The endemic region is situated under the river Meuse, on the heights of the Ardennes.

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

Post mortem visual examination is performed at the slaughterhouses in the domestic intermediate hosts: cattle, sheep, horses and pigs. Whole carcasses or parts are rejected in case Echinococcus granulosus cysts are found.

Recent actions taken to control the zoonoses

Consumption of berries is discouraged by warning messages, displayed to visitors of Parks and Woodlands.

2.10 TOXOPLASMOSIS

2.10.1 General evaluation of the national situation

A. Toxoplasmosis general evaluation

History of the disease and/or infection in the country

The majority of grazing animals seem to be inapparent carriers of tissue cysts.

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

Man is infected with *Toxoplasma gondii* through ingestion of undercooked infected meat or upon accidental ingestion of sporulated oocysts from the environment. The cat is the final host, man and most warm-blooded animals are intermediate hosts.

Most infections with *T.gondii* are asymptomatic, however mild (flu-like symptoms), moderate (lymphadenopathy, chronic fatigue) to severe disease (disseminated toxoplasmosis, encephalitis) may occur, the latter mainly in immunocompromised hosts.

Moreover, when infection occurs in pregnant women, toxoplasmosis may cause abortion and congenital disorders. If a woman acquires primary infection during pregnancy, *Toxoplasma* can be transmitted through the placenta to the foetus and lead to congenital toxoplasmosis.

A percentage of young children (1 to 14-year-old age group) may get post-natal infections with *T. gondii* and develop symptomatic toxoplasmosis (e.g. ocular disease). A number of cases of the disease in a 15 to 24-year-old age group may be referred to as acquired toxoplasmosis in immunocompetent patients, which may present with a range of signs, from lymphadenopathy to retinitis and uveitis. Immunocompetent individuals may often develop clinical toxoplasmosis. The majority of adult persons have acquired a degree of immunity to re-infection but can remain carrier.

Recent actions taken to control the zoonoses

Screening for toxoplasmosis during pregnancy is common. The seroprevalence in women tested before pregnancy is about 50%.

Prevention of congenital toxoplasmosis by specific hygienic measures seems to have limited impact.

2.11 RABIES

2.11.1 General evaluation of the national situation

A. Rabies general evaluation

History of the disease and/or infection in the country

Since the last indigenously acquired case of rabies occurred in Belgium in a bovine coming from Bastogne (province of Luxembourg) in July 1999, Belgium obtained the official status of rabies-free country in July 2001 according to the WHO recommendations (1992) and the Office Internationale des Epizooties (OIE) guidelines (1997).

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

In October 2007, Belgium lost temporary its official status of rabies free country due to a positive case of rabies in a dog, illegally imported from Morocco.

Belgium regained its official free status of rabies on 28 October 2008.

Recent actions taken to control the zoonoses

Surveillance system and methods used.

Domestic animals with nervous symptoms that are suspected of rabies have to be notified to the Federal Agency for the Safety of the Food chain. Wildlife found dead or shot should also be declared for analysis to the Scientific Institute of Public Health, the National Reference laboratory of rabies.

Collection of dead-found bats is recommended for rabies surveillance.

Live suspected animals are killed and their brain is examined by immunofluorescence and virus cultivation in neuroblasts at the Scientific Institute of Public Health.

The high percentage of examinations of cattle is in consequence of the surveillance system for TSE in cattle: all suspected BSE cases were first examined for rabies. Rabies must be considered in the differential diagnosis of BSE, although the clinical course of rabies is usually quicker than the evolution of clinical nervous symptoms in case of BSE.

The oral vaccination campaign of foxes with vaccine baits started in 1989 and was stopped by the end of 2003.

In the southern part of the country, below the rivers Sambre and Meuse, vaccination of dogs and cats is compulsory. In addition, all pets staying on any Belgian public camping must be vaccinated.

Suggestions to the European Union for the actions to be taken

It is highly recommended to report on the rabies virus type detected to be able to differentiate between the classical rabies type (genotype 1) and the European bat Lyssa virus types (unspecified or EBL 1 or EBL 2).

Bat rabies is of public health concern. The public should be made aware of the danger of human exposure to bats, especially in case of abnormal behavior of bats. Rabies is transmitted to humans and other animals through saliva, usually by a bite. Any person exposed to bats should be previously vaccinated against rabies. Nobody should handle diseased or dead bats without protection such as gloves. Any person finding a bat behaving abnormally, in an unusual place, or under unusual circumstances, should not attempt to handle or to move the animal but should contact official authority. Education and recommendations should be given to travelers in order to reduce their risk of infection. Although dogs

represent a more serious threat in many countries, yet the risk of rabies infection by bat bites also exists.

Pre-exposure vaccination should be offered to persons at risk, such as laboratory workers, veterinarians, animal handlers, international travelers. Currently available vaccines are safe and effective against both the classical rabies virus and the bat Lyssa viruses.

2.11.2 Lyssavirus (rabies) in animals

A. Rabies in dogs

Monitoring system

Sampling strategy

The brain of dogs with nervous symptoms suspected of rabies are examined by direct immunofluorescence test and virus cultivation in neuroblasts at the Scientific Institute of Public Health, the National Reference Laboratory for rabies.

Frequency of the sampling

All suspected dogs with clinical nervous symptoms are tested.

Type of specimen taken

brain

Methods of sampling (description of sampling techniques)

Small animals: head / carcass

Huge animals: brain (CNS)

Shipping and packaging conditions:

Brains are transported as soon as possible (refrigerated if possible) in a tightly sealed packet to the National Reference Laboratory. In case of transport of a carcass, an authorization is required.

The storage period of samples at the National Reference Laboratory for further analysis is one year.

Case definition

An animal is considered positive in case of a positive direct immunofluorescence test (Antigen detection) confirmed by cell cultivation of the virus or detection by RT-PCR or (rarely performed) by mice inoculation test (clinical observation of rabies symptoms).

Diagnostic/analytical methods used

Direct immunofluorescence for the detection of viral antigen, virus isolation in neuroblastoma cell culture, detection by RT-PCR, mouse inoculation test

Vaccination policy

In the Southern part of the country, below the rivers Sambre and Meuse, vaccination of dogs and cats is compulsory. In addition, all pets staying on any Belgian public camping must be vaccinated.

Oral vaccination of foxes by baits started in 1989.

Since there were no more cases of rabies for the last years, oral vaccination of foxes by baits was stopped by the end of 2003.

Measures in case of the positive findings or single cases

In case of positive findings national legislation has to be applied (Royal Decree of 10 February 1967, Royal Decree of 22 May 2005 and Ministerial Decree of 23 February 1967).

Notification system in place

Royal Decree of 10 February 1967, Animal Health Law of 24 March 1987 Chapter III and Royal Decree of 25 April 1988 (list of all notifiable animal diseases)

Notification of all laboratory confirmed cases to the competent Authority is mandatory.

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)		Selective sampling	Official sampling	animal sample > brain	Domestic	Animal	Belgique-België	178	0		
Sheep		Selective sampling	Official sampling	animal sample > brain	Domestic	Animal	Belgique-België	114	0		
Goats		Selective sampling	Official sampling	animal sample > brain	Domestic	Animal	Belgique-België	54	0		
Bats - wild - Monitoring		Selective sampling	Official sampling	animal sample	Domestic	Animal	Belgique-België	108	0		
Foxes - wild - Monitoring		Selective sampling	Official sampling	animal sample > brain	Unknown	Animal	Belgique-België	48	0		
Cats - pet animals		Selective sampling	Official sampling	animal sample > brain	Unknown	Animal	Belgique-België	13	0		
Dogs - pet animals		Selective sampling	Official sampling	animal sample > brain	Unknown	Animal	Belgique-België	15	0		

	EBLV-2	Lyssavirus (unspecified virus)
Cattle (bovine animals)		
Sheep		
Goats		
Bats - wild - Monitoring		

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Foxes - wild - Monitoring		
Cats - pet animals		
Dogs - pet animals		

2.12 STAPHYLOCOCCUS INFECTION

2.12.1 General evaluation of the national situation

2.12.2 Staphylococcus in foodstuffs

A. Staphylococcus in Food

Monitoring system

Sampling strategy

Tests for Staphylococcus were performed in minced meat, dairy products, shellfish and bakery products.

Frequency of the sampling

Samples are taken according to the national control program or in the frame of RASFF, complaints or suspicion.

Type of specimen taken

minced meat, milk, shellfish and bakery products

Methods of sampling (description of sampling techniques)

The samples were taken according to Regulation (EC) No 2073/2005.

Definition of positive finding

To determine the conformity of a sample or a batch, the criteria laid down in the Regulation (EC) No 2073/2005 are applied.

Diagnostic/analytical methods used

The method used is according to Regulation (EC) No 2073/2005.

Measures in case of the positive findings or single cases

Measures to be taken in the case of a non-compliant result:

- Notification of the producer or importer
- Possibility of a counter analysis
- Destruction of the non compliant batch or single sample
- Further investigation: additional sampling, possible recall, RASFF, ...

Table Staphylococcus in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Meat from pig - minced meat - intended to be eaten raw - at retail - Monitoring	DIS 823	Objective sampling	Official sampling	food sample > meat	Unknown	Batch	1 g	10	0		
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Monitoring	DIS 823	Objective sampling	Official sampling	food sample > meat	Unknown	Batch	1 g	45	0		
Milk, cows' - raw milk - intended for direct human consumption - at farm - Monitoring	PRI 013	Objective sampling	Official sampling	food sample > milk	Domestic	Batch	1 ml	40	0		
Bakery products - desserts - containing raw eggs - at retail	DIS 861	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	25	0		
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant	TRA 134	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	20	0		
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail	DIS 818	Unspecified	Official sampling	food sample		Batch	1 g	19	0		
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm	PRI 008	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	11	0		
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail	DIS 818	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	22	2		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant	TRA 134	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	45	0		
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail	DIS 818	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	45	0		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at farm	PRI 008	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	18	2		

Table Staphylococcus in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant	TRA 133	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	30	3		
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail	DIS 818	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	30	4		
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at processing plant	TRA 134	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	46	0		
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at retail	DIS 818	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	45	0		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at farm	PRI 008	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	8	2		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant	TRA 133	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	33	3		
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at retail	DIS 818	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	33	0		
Cheeses made from sheep's milk - unspecified - made from pasteurised milk - at retail	DIS 818	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	91	0		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at farm	PRI 008	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	10	0		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant	TRA 133	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	8	1		
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail	DIS 818	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	57	0		

Table Staphylococcus in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Crustaceans - unspecified - cooked - at processing plant	TRA 403	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	45	0		
Crustaceans - unspecified - cooked - at retail	DIS 852	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	46	0		
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at farm	PRI 009	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	58	3		
Dairy products (excluding cheeses) - ice-cream - at farm	PRI 010	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	47	1		
Dairy products (excluding cheeses) - ice-cream - at retail	DIS 859	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	46	0		
Dairy products (excluding cheeses) - milk powder and whey powder - at border control	IEC 501	Objective sampling	Official sampling	food sample	Intra EU trade	Batch	1 g	8	0		
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant	TRA 123	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	45	0		
Dairy products (excluding cheeses) - yoghurt - at farm	PRI 007	Objective sampling	Official sampling	food sample	Domestic	Batch	1 g	13	0		
Dairy products (excluding cheeses) - yoghurt - at processing plant	TRA 142	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	23	0		
Dairy products (excluding cheeses) - yoghurt - at retail	DIS 858	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	46	0		
Fishery products, unspecified - ready-to-eat - at processing plant	TRA 402	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	45	0		
Fishery products, unspecified - ready-to-eat - at retail	DIS 808	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	46	0		
Fishery products, unspecified - ready-to-eat - at retail	DIS 873	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	90	0		

Table Staphylococcus in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Foodstuffs intended for special nutritional uses - dried dietary foods for special medical purposes intended for infants below 6 months - at retail	DIS 862	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	59	0		
Frogs leg - at border control	IEC 016	Objective sampling	Official sampling	food sample	Intra EU trade	Batch	1 g	17	0		
Infant formula - dried - at processing plant	TRA 171	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	10	0		
Infant formula - dried - at retail	DIS 803	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	86	0		
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Monitoring	TRA 134	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	20	0		
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail	DIS 888	Objective sampling	Official sampling	food sample > meat	Unknown	Batch	1 g	19	0		
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail - Monitoring	DIS 888	Objective sampling	Official sampling	food sample > meat	Unknown	Batch	1 g	9	0		
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant	TRA 416	Objective sampling	Official sampling	food sample > meat	Unknown	Batch	1 g	45	0		
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail	DIS 801	Objective sampling	Official sampling	food sample > meat	Unknown	Batch	1 g	46	0		
Meat from other animal species or not specified - meat preparation - intended to be eaten raw - at retail	DIS 815	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	236	0		
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at processing plant	TRA 416	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	59	0		
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at retail	DIS 801	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	59	0		

Table Staphylococcus in Food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Meat from other animal species or not specified - meat products - raw and intended to be eaten raw - at processing plant	TRA 317	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	52	0		
Meat from pig - meat products - fermented sausages - at processing plant	TRA 302	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	36	0		
Meat from pig - meat products - fermented sausages - at retail	DIS 801	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	46	0		
Meat from pig - meat products - raw ham - at retail	DIS 801	Objective sampling	Official sampling	food sample > meat	Unknown	Batch	1 g	46	0		
Meat from pig - minced meat - intended to be eaten raw - at retail - Monitoring	DIS 823	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	4	0		
Meat from pig - minced meat - intended to be eaten cooked - at retail	DIS 888	Objective sampling	Official sampling	food sample > meat	Unknown	Batch	1 g	30	0		
Milk, cows' - raw milk - intended for direct human consumption - at retail	DIS 837	Objective sampling	Official sampling	food sample > milk	Unknown	Batch	1 g	8	0		
Molluscan shellfish - cooked - at processing plant	TRA 401	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	45	0		
Molluscan shellfish - cooked - at retail	DIS 806	Objective sampling	Official sampling	food sample	Unknown	Batch	1 g	45	0		
	S. aureus, meticillin resistant (MRSA) - spa-type t108	S. aureus, meticillin resistant (MRSA) - spa-type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified							
Meat from pig - minced meat - intended to be eaten raw - at retail - Monitoring											

Table Staphylococcus in Food

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococ- cus spp., unspecified
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Monitoring				
Milk, cows' - raw milk - intended for direct human consumption - at farm - Monitoring				
Bakery products - desserts - containing raw eggs - at retail				
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant				
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail				
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm				
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail				2
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant				
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail				
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at farm				2
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant				3

Table Staphylococcus in Food

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococ- cus spp., unspecified
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail				4
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at processing plant				
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at retail				
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at farm				2
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant				3
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at retail				
Cheeses made from sheep's milk - unspecified - made from pasteurised milk - at retail				
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at farm				
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant				1
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail				
Crustaceans - unspecified - cooked - at processing plant				
Crustaceans - unspecified - cooked - at retail				

Table Staphylococcus in Food

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at farm				3
Dairy products (excluding cheeses) - ice-cream - at farm				1
Dairy products (excluding cheeses) - ice-cream - at retail				
Dairy products (excluding cheeses) - milk powder and whey powder - at border control				
Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant				
Dairy products (excluding cheeses) - yoghurt - at farm				
Dairy products (excluding cheeses) - yoghurt - at processing plant				
Dairy products (excluding cheeses) - yoghurt - at retail				
Fishery products, unspecified - ready-to-eat - at processing plant				
Fishery products, unspecified - ready-to-eat - at retail				
Fishery products, unspecified - ready-to-eat - at retail				
Foodstuffs intended for special nutritional uses - dried dietary foods for special medical purposes intended for infants below 6 months - at retail				

Table Staphylococcus in Food

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococ- cus spp., unspecified
Frogs leg - at border control				
Infant formula - dried - at processing plant				
Infant formula - dried - at retail				
Meat from bovine animals - minced meat - intended to be eaten raw - at retail - Monitoring				
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail				
Meat from bovine animals and pig - minced meat - intended to be eaten raw - at retail - Monitoring				
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant				
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail				
Meat from other animal species or not specified - meat preparation - intended to be eaten raw - at retail				
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at processing plant				
Meat from other animal species or not specified - meat products - cooked, ready-to-eat - at retail				
Meat from other animal species or not specified - meat products - raw and intended to be eaten raw - at processing plant				

Table Staphylococcus in Food

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	Staphylococ- cus spp., unspecified
Meat from pig - meat products - fermented sausages - at processing plant				
Meat from pig - meat products - fermented sausages - at retail				
Meat from pig - meat products - raw ham - at retail				
Meat from pig - minced meat - intended to be eaten raw - at retail - Monitoring				
Meat from pig - minced meat - intended to be eaten cooked - at retail				
Milk, cows' - raw milk - intended for direct human consumption - at retail				
Molluscan shellfish - cooked - at processing plant				
Molluscan shellfish - cooked - at retail				

2.12.3 Staphylococcus in animals

Table Staphylococcus in Animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	S. aureus, meticillin resistant (MRSA)	S. aureus, meticillin resistant (MRSA) - spa-type t011
Cattle (bovine animals) - dairy cows - at farm - Monitoring	FASFC	Objective sampling	Official sampling	animal sample > nasal swab	Domestic	Animal		141	14	14	8
Cattle (bovine animals) - calves (under 1 year) - veal calves - at slaughterhouse	FASFC	Objective sampling	Official sampling	animal sample > nasal swab	Domestic	Slaughter batch		104	49	49	40
Cattle (bovine animals) - meat production animals - calves (under 1 year) - at farm	FASFC	Objective sampling	Official sampling	animal sample > nasal swab	Domestic	Herd		187	19	19	16

	S. aureus, meticillin resistant (MRSA) - spa-type t108	S. aureus, meticillin resistant (MRSA) - spa-type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified	S. aureus, meticillin resistant (MRSA) - spa-type t1456
Cattle (bovine animals) - dairy cows - at farm - Monitoring			5	1
Cattle (bovine animals) - calves (under 1 year) - veal calves - at slaughterhouse			8	1
Cattle (bovine animals) - meat production animals - calves (under 1 year) - at farm			2	1

Footnote:

* The 4 of the 5 unspecified in dairy cattle belonged to spa-type t037 (1), t388 (1), t6228 (2) and one could not be typed.

* The 8 unspecified in veal calves at slaughter belonged to spa-type t1451 (3), t1985 (3) and t3423 (1), one was not typed.

The 2 unspecified in calves under 1 year at farm belonged to spa-type t121 (1) and t1985 (1).

2.12.4 Antimicrobial resistance in Staphylococcus isolates

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) in Cattle (bovine animals) - dairy cows - quantitative data
[Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. aureus, meticillin resistant (MRSA)	Cattle (bovine animals) - dairy cows																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	1											1	1			1								
Aminoglycosides - Kanamycin	8	3	3																	3						
Aminoglycosides - Streptomycin	16	3	3																3							
Amphenicols - Chloramphenicol	16	3	2															1		2						
Fluoroquinolones - Ciprofloxacin	1	3	0									2	1													
Tetracyclines - Tetracycline	1	3	3															3								
Trimethoprim	2	3	1												2				1							
Antimycobacterial drugs - Rifampicin	0.03	3	2					1					2													
Cephalosporins - Cefoxitin	4	3	3															3								
Fusidanes - Fusidic acid	0.5	3	1										2	1												
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	3	0											3												
Lincosamides - Clindamycin	0.25	3	1								2					1										
Macrolides - Erythromycin	1	3	3														3									
Monocarboxylic acid - Mupirocin	1	3	0										3													
Oxazolidinones - Linezolid	4	3	0											1	2											
Penicillins - Penicillin	0.12	3	3												3											

Table Antimicrobial susceptibility testing of S. aureus, meticillin resistant (MRSA) in Cattle (bovine animals) - dairy cows - quantitative data
[Dilution method]

S. aureus, meticillin resistant (MRSA)	Cattle (bovine animals) - dairy cows																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
	Pleuromutilins - Tiamulin	2	3	0									2	1													
	Streptogramins - Quinupristin/Dalfopristin	1	3	0										2	1												
	Sulfonamides - Sulfamethoxazole	128	3	2																	1			2			

S. aureus, meticillin resistant (MRSA) Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - dairy cows	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) in Cattle (bovine animals) - dairy cows - quantitative data
[Dilution method]

S. aureus, meticillin resistant (MRSA) Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - dairy cows	
	unknown	
	lowest	highest
Antimicrobials:		
Lincosamides - Clindamycin	0.12	4
Macrolides - Erythromycin	0.25	8
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t011 - CC398 in Cattle (bovine animals) - dairy cows - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

CC398	Cattle (bovine animals) - dairy cows																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	8	5											3				5										
Aminoglycosides - Kanamycin	8	8	6													2		1		5								
Aminoglycosides - Streptomycin	16	8	3													2	1	2	3									
Amphenicols - Chloramphenicol	16	8	0													1	4	3										
Fluoroquinolones - Ciprofloxacin	1	8	4										2	2			4											
Tetracyclines - Tetracycline	1	8	7										1					7										
Trimethoprim	2	8	6												2	1			5									
Antimycobacterial drugs - Rifampicin	0.03	8	1					6	1				1															
Cephalosporins - Cefoxitin	4	8	8															8										
Fusidanes - Fusidic acid	0.5	8	2										6			2												
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	8	0											6	2													
Lincosamides - Clindamycin	0.25	8	6								2					6												
Macrolides - Erythromycin	1	8	6										1	1			6											
Monocarboxylic acid - Mupirocin	1	8	1										7								1							
Oxazolidines - Linezolid	4	8	0											1	7													
Penicillins - Penicillin	0.12	8	8												8													
Pleuromutilins - Tiamulin	2	8	2										5	1		2												
Streptogramins - Quinupristin/Dalfopristin	1	8	2										2	4	1	1												

Table Antimicrobial susceptibility testing of S. aureus, meticillin resistant (MRSA) - spa-type t011 - CC398 in Cattle (bovine animals) - dairy cows
- quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - dairy cows																									
	unknown																									
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Sulfonamides - Sulfamethoxazole	128	8	2																6			2				

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - dairy cows	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16
Lincosamides - Clindamycin	0.12	4
Macrolides - Erythromycin	0.25	8

Table Antimicrobial susceptibility testing of S. aureus, meticillin resistant (MRSA) - spa-type t011 - CC398 in Cattle (bovine animals) - dairy cows
- quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - dairy cows	
	unknown	
	lowest	highest
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t1456 - CC398 in Cattle (bovine animals) - dairy cows - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

CC398	Cattle (bovine animals) - dairy cows																											
	Cattle (bovine animals) - dairy cows																											
	unknown																											
	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	≥4096	1024	2048		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	1	1															1										
Aminoglycosides - Kanamycin	8	1	1																1									
Aminoglycosides - Streptomycin	16	1	0														1											
Amphenicols - Chloramphenicol	16	1	0															1										
Fluoroquinolones - Ciprofloxacin	1	1	0										1															
Tetracyclines - Tetracycline	1	1	1															1										
Trimethoprim	2	1	1																1									
Antimycobacterial drugs - Rifampicin	0.03	1	0					1																				
Cephalosporins - Cefoxitin	4	1	1															1										
Fusidanes - Fusidic acid	0.5	1	0										1															
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	1	0											1														
Lincosamides - Clindamycin	0.25	1	1													1												
Macrolides - Erythromycin	1	1	1														1											
Monocarboxylic acid - Mupirocin	1	1	0										1															
Oxazolidines - Linezolid	4	1	0												1													
Penicillins - Penicillin	0.12	1	1												1													
Pleuromutilins - Tiamulin	2	1	0										1															
Streptogramins - Quinupristin/Dalfopristin	1	1	1												1													

Table Antimicrobial susceptibility testing of S. aureus, meticillin resistant (MRSA) - spa-type t1456 - CC398 in Cattle (bovine animals) - dairy cows - quantitative data [Dilution method]

CC398	Cattle (bovine animals) - dairy cows																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Sulfonamides - Sulfamethoxazole	128	1	0																	1						

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - dairy cows	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16
Lincosamides - Clindamycin	0.12	4
Macrolides - Erythromycin	0.25	8

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t1456 - CC398 in Cattle (bovine animals) - dairy cows - quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - dairy cows	
	unknown	
	lowest	highest
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

Table Antimicrobial susceptibility testing of S. aureus in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. aureus	Cattle (bovine animals) - young cattle (1-2 years)																											
	Cattle (bovine animals) - young cattle (1-2 years)																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0											1														
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	16	1	0															1										
Amphenicols - Chloramphenicol	16	1	0														1											
Fluoroquinolones - Ciprofloxacin	1	1	1													1												
Tetracyclines - Tetracycline	1	1	1															1										
Trimethoprim	2	1	1																1									
Antimycobacterial drugs - Rifampicin	0.03	1	0					1																				
Cephalosporins - Cefoxitin	4	1	1															1										
Fusidanes - Fusidic acid	0.5	1	0										1															
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	1	0											1														
Lincosamides - Clindamycin	0.25	1	0								1																	
Macrolides - Erythromycin	1	1	0										1															
Monocarboxylic acid - Mupirocin	1	1	0										1															
Oxazolidines - Linezolid	4	1	0												1													
Penicillins - Penicillin	0.12	1	1												1													
Pleuromutilins - Tiamulin	2	1	0										1															
Streptogramins - Quinupristin/Dalfopristin	1	1	0										1															

Table Antimicrobial susceptibility testing of S. aureus in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

S. aureus	Cattle (bovine animals) - young cattle (1-2 years)																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Antimicrobials:																										
Sulfonamides - Sulfamethoxazole	128	1	1																		1					

S. aureus	Cattle (bovine animals) - young cattle (1-2 years)	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16
Lincosamides - Clindamycin	0.12	4
Macrolides - Erythromycin	0.25	8

Table Antimicrobial susceptibility testing of S. aureus in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

<div>S. aureus</div> <div>Isolates out of a monitoring program (yes/no)</div> <div>Number of isolates available in the laboratory</div> <div>Antimicrobials:</div>	Cattle (bovine animals) - young cattle (1-2 years)	
	unknown	
	lowest	highest
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) in Cattle (bovine animals) - meat production animals - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. aureus, meticillin resistant (MRSA)	Cattle (bovine animals) - meat production animals																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	1											1		1											
Aminoglycosides - Kanamycin	8	2	1													1				1							
Aminoglycosides - Streptomycin	16	2	1														1		1								
Amphenicols - Chloramphenicol	16	2	0														1	1									
Fluoroquinolones - Ciprofloxacin	1	2	2												1		1										
Tetracyclines - Tetracycline	1	2	1											1				1									
Trimethoprim	2	2	2																2								
Antimycobacterial drugs - Rifampicin	0.03	2	0					2																			
Cephalosporins - Cefoxitin	4	2	2															2									
Fusidanes - Fusidic acid	0.5	2	0										2														
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	2	0											2													
Lincosamides - Clindamycin	0.25	2	1								1		1														
Macrolides - Erythromycin	1	2	0										1	1													
Monocarboxylic acid - Mupirocin	1	2	0										2														
Oxazolidines - Linezolid	4	2	0												2												
Penicillins - Penicillin	0.12	2	2												2												
Pleuromutilins - Tiamulin	2	2	0										1	1													
Streptogramins - Quinupristin/Dalfopristin	1	2	0										2														

Table Antimicrobial susceptibility testing of S. aureus, meticillin resistant (MRSA) in Cattle (bovine animals) - meat production animals - quantitative data [Dilution method]

S. aureus, meticillin resistant (MRSA) Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - meat production animals																									
	unknown																									
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Sulfonamides - Sulfamethoxazole	128	2	0																1	1						

S. aureus, meticillin resistant (MRSA) Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - meat production animals	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16
Lincosamides - Clindamycin	0.12	4

Table Antimicrobial susceptibility testing of S. aureus, meticillin resistant (MRSA) in Cattle (bovine animals) - meat production animals - quantitative data [Dilution method]

S. aureus, meticillin resistant (MRSA) Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - meat production animals	
	unknown	
	lowest	highest
Antimicrobials:		
Macrolides - Erythromycin	0.25	8
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t011 - CC398 in Cattle (bovine animals) - meat production animals - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

CC398	Cattle (bovine animals) - meat production animals																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	16	11											5		1	2	8										
Aminoglycosides - Kanamycin	8	16	11													3	2	1	1	9								
Aminoglycosides - Streptomycin	16	16	9													2	4	1	9									
Amphenicols - Chloramphenicol	16	16	2													3	6	5		2								
Fluoroquinolones - Ciprofloxacin	1	16	7									2	5	2			7											
Tetracyclines - Tetracycline	1	16	16															16										
Trimethoprim	2	16	16													1	1		14									
Antimycobacterial drugs - Rifampicin	0.03	16	2					14					2															
Cephalosporins - Cefoxitin	4	16	16															16										
Fusidanes - Fusidic acid	0.5	16	7										9	2	1	4												
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	16	0											13	3													
Lincosamides - Clindamycin	0.25	16	16											1		15												
Macrolides - Erythromycin	1	16	15									1					15											
Monocarboxylic acid - Mupirocin	1	16	4										12		2						2							
Oxazolidines - Linezolid	4	16	0											5	11													
Penicillins - Penicillin	0.12	16	16												16													
Pleuromutilins - Tiamulin	2	16	5										11			5												
Streptogramins - Quinupristin/Dalfopristin	1	16	6										5	5	2	4												

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t011 - CC398 in Cattle (bovine animals) - meat production animals - quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - meat production animals																										
	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Sulfonamides - Sulfamethoxazole	128	16	3																13		1	2					

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - meat production animals	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16
Lincosamides - Clindamycin	0.12	4

Table Antimicrobial susceptibility testing of S. aureus, meticillin resistant (MRSA) - spa-type t011 - CC398 in Cattle (bovine animals) - meat production animals - quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - meat production animals	
	unknown	
	lowest	highest
Antimicrobials:		
Macrolides - Erythromycin	0.25	8
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t1456 - CC398 in Cattle (bovine animals) - meat production animals - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

CC398	Cattle (bovine animals) - meat production animals																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	0											1														
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	16	1	0														1											
Amphenicols - Chloramphenicol	16	1	0														1											
Fluoroquinolones - Ciprofloxacin	1	1	0											1														
Tetracyclines - Tetracycline	1	1	1															1										
Trimethoprim	2	1	1																1									
Antimycobacterial drugs - Rifampicin	0.03	1	0					1																				
Cephalosporins - Cefoxitin	4	1	1															1										
Fusidanes - Fusidic acid	0.5	1	0										1															
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	1	0											1														
Lincosamides - Clindamycin	0.25	1	0								1																	
Macrolides - Erythromycin	1	1	0									1																
Monocarboxylic acid - Mupirocin	1	1	0										1															
Oxazolidines - Linezolid	4	1	0												1													
Penicillins - Penicillin	0.12	1	1												1													
Pleuromutilins - Tiamulin	2	1	0										1															
Streptogramins - Quinupristin/Dalfopristin	1	1	0										1															

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t1456 - CC398 in Cattle (bovine animals) - meat production animals - quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - meat production animals																									
	unknown																									
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Sulfonamides - Sulfamethoxazole	128	1	0																1							

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - meat production animals	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16
Lincosamides - Clindamycin	0.12	4

Table Antimicrobial susceptibility testing of S. aureus, meticillin resistant (MRSA) - spa-type t1456 - CC398 in Cattle (bovine animals) - meat production animals - quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - meat production animals	
	unknown	
	lowest	highest
Macrolides - Erythromycin	0.25	8
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t1451 - CC398 in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

CC398	Cattle (bovine animals) - young cattle (1-2 years)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	3														1	2									
Aminoglycosides - Kanamycin	8	3	3																	3							
Aminoglycosides - Streptomycin	16	3	1													1	1		1								
Amphenicols - Chloramphenicol	16	3	0														3										
Fluoroquinolones - Ciprofloxacin	1	3	2									1					2										
Tetracyclines - Tetracycline	1	3	3															3									
Trimethoprim	2	3	3																3								
Antimycobacterial drugs - Rifampicin	0.03	3	0					3																			
Cephalosporins - Cefoxitin	4	3	3															3									
Fusidanes - Fusidic acid	0.5	3	0										3														
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	3	0											3													
Lincosamides - Clindamycin	0.25	3	3													3											
Macrolides - Erythromycin	1	3	3														3										
Monocarboxylic acid - Mupirocin	1	3	0										3														
Oxazolidines - Linezolid	4	3	0												3												
Penicillins - Penicillin	0.12	3	3												3												
Pleuromutilins - Tiamulin	2	3	0										3														
Streptogramins - Quinupristin/Dalfopristin	1	3	0										1	2													

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t1451 - CC398 in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - young cattle (1-2 years)																									
	unknown																									
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Sulfonamides - Sulfamethoxazole	128	3	0																3							

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - young cattle (1-2 years)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16
Lincosamides - Clindamycin	0.12	4
Macrolides - Erythromycin	0.25	8

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t1451 - CC398 in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - young cattle (1-2 years)	
	unknown	
	lowest	highest
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

Table Antimicrobial susceptibility testing of S. aureus in Cattle (bovine animals) - dairy cows - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. aureus	Cattle (bovine animals) - dairy cows																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	2														1	1									
Aminoglycosides - Kanamycin	8	2	2																	2							
Aminoglycosides - Streptomycin	16	2	2																2								
Amphenicols - Chloramphenicol	16	2	0														2										
Fluoroquinolones - Ciprofloxacin	1	2	1											1			1										
Tetracyclines - Tetracycline	1	2	2															2									
Trimethoprim	2	2	2																2								
Antimycobacterial drugs - Rifampicin	0.03	2	1					1					1														
Cephalosporins - Cefoxitin	4	2	2															2									
Fusidanes - Fusidic acid	0.5	2	1										1			1											
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	2	0											2													
Lincosamides - Clindamycin	0.25	2	2													2											
Macrolides - Erythromycin	1	2	2													1	1										
Monocarboxylic acid - Mupirocin	1	2	0										1	1													
Oxazolidines - Linezolid	4	2	0											1	1												
Penicillins - Penicillin	0.12	2	2												2												
Pleuromutilins - Tiamulin	2	2	1										1			1											
Streptogramins - Quinupristin/Dalfopristin	1	2	1										1			1											
Sulfonamides - Sulfamethoxazole	128	2	1																	1			1				

Table Antimicrobial susceptibility testing of *S. aureus* in Cattle (bovine animals) - dairy cows - quantitative data [Dilution method]

S. aureus Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - dairy cows	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16
Lincosamides - Clindamycin	0.12	4
Macrolides - Erythromycin	0.25	8
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

Table Antimicrobial susceptibility testing of *S. aureus* in Cattle (bovine animals) - dairy cows - quantitative data [Dilution method]

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) in Cattle (bovine animals) - young cattle (1-2 years) -
quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

S. aureus, meticillin resistant (MRSA)	Cattle (bovine animals) - young cattle (1-2 years)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	3	2											1				2									
Aminoglycosides - Kanamycin	8	3	3																	3							
Aminoglycosides - Streptomycin	16	3	3																3								
Amphenicols - Chloramphenicol	16	3	2															1	1	1							
Fluoroquinolones - Ciprofloxacin	1	3	0									1	2														
Tetracyclines - Tetracycline	1	3	3															3									
Trimethoprim	2	3	3																3								
Antimycobacterial drugs - Rifampicin	0.03	3	1					2					1														
Cephalosporins - Cefoxitin	4	3	3															3									
Fusidanes - Fusidic acid	0.5	3	1										2		1												
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	3	0											3													
Lincosamides - Clindamycin	0.25	3	3													3											
Macrolides - Erythromycin	1	3	3														3										
Monocarboxylic acid - Mupirocin	1	3	1										2									1					
Oxazolidines - Linezolid	4	3	0											1	2												
Penicillins - Penicillin	0.12	3	3												3												
Pleuromutilins - Tiamulin	2	3	1										2			1											
Streptogramins - Quinupristin/Dalfopristin	1	3	1										1	1		1											

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) in Cattle (bovine animals) - young cattle (1-2 years) -
quantitative data [Dilution method]

S. aureus, meticillin resistant (MRSA)	Cattle (bovine animals) - young cattle (1-2 years)																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	unknown																									
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Sulfonamides - Sulfamethoxazole	128	3	2																	1		1	1			

S. aureus, meticillin resistant (MRSA) Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - young cattle (1-2 years)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16
Lincosamides - Clindamycin	0.12	4
Macrolides - Erythromycin	0.25	8

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) in Cattle (bovine animals) - young cattle (1-2 years) -
quantitative data [Dilution method]

S. aureus, meticillin resistant (MRSA) Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - young cattle (1-2 years)	
	unknown	
	lowest	highest
Antimicrobials:		
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t011 - CC398 in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

CC398	Cattle (bovine animals) - young cattle (1-2 years)																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	40	36											4		1	1	34										
Aminoglycosides - Kanamycin	8	40	35													4	1		1	34								
Aminoglycosides - Streptomycin	16	40	24													8	8		24									
Amphenicols - Chloramphenicol	16	40	4													1	18	17	1	3								
Fluoroquinolones - Ciprofloxacin	1	40	18									10	11	1	1		17											
Tetracyclines - Tetracycline	1	40	40															40										
Trimethoprim	2	40	40													1			39									
Antimycobacterial drugs - Rifampicin	0.03	40	2					38			1		1															
Cephalosporins - Cefoxitin	4	40	40														4	36										
Fusidanes - Fusidic acid	0.5	40	10										30	7		3												
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	40	0											35	5													
Lincosamides - Clindamycin	0.25	40	37								2	1				37												
Macrolides - Erythromycin	1	40	37									1	2				37											
Monocarboxylic acid - Mupirocin	1	40	2										36	2	1						1							
Oxazolidines - Linezolid	4	40	0											11	28	1												
Penicillins - Penicillin	0.12	40	40											1	39													
Pleuromutilins - Tiamulin	2	40	5										32	3		5												
Streptogramins - Quinupristin/Dalfopristin	1	40	7										10	23	3	4												

Table Antimicrobial susceptibility testing of S. aureus, meticillin resistant (MRSA) - spa-type t011 - CC398 in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - young cattle (1-2 years)																									
	unknown																									
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Sulfonamides - Sulfamethoxazole	128	40	10																	28	2	5	5			

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - young cattle (1-2 years)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16
Lincosamides - Clindamycin	0.12	4
Macrolides - Erythromycin	0.25	8

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t011 - CC398 in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - young cattle (1-2 years)	
	unknown	
	lowest	highest
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t1456 - CC398 in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

CC398	Cattle (bovine animals) - young cattle (1-2 years)																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	1	1														1											
Aminoglycosides - Kanamycin	8	1	1																	1								
Aminoglycosides - Streptomycin	16	1	1																	1								
Amphenicols - Chloramphenicol	16	1	0														1											
Fluoroquinolones - Ciprofloxacin	1	1	0											1														
Tetracyclines - Tetracycline	1	1	0										1															
Trimethoprim	2	1	1																1									
Antimycobacterial drugs - Rifampicin	0.03	1	0					1																				
Cephalosporins - Cefoxitin	4	1	1															1										
Fusidanes - Fusidic acid	0.5	1	0										1															
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	2	1	0											1														
Lincosamides - Clindamycin	0.25	1	1													1												
Macrolides - Erythromycin	1	1	1													1												
Monocarboxylic acid - Mupirocin	1	1	0										1															
Oxazolidines - Linezolid	4	1	0												1													
Penicillins - Penicillin	0.12	1	1												1													
Pleuromutilins - Tiamulin	2	1	0										1															
Streptogramins - Quinupristin/Dalfopristin	1	1	1													1												

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t1456 - CC398 in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

CC398	Cattle (bovine animals) - young cattle (1-2 years)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Sulfonamides - Sulfamethoxazole	128	1	0																	1							

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - young cattle (1-2 years)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	1	16
Aminoglycosides - Kanamycin	4	64
Aminoglycosides - Streptomycin	4	32
Amphenicols - Chloramphenicol	4	64
Fluoroquinolones - Ciprofloxacin	0.25	8
Tetracyclines - Tetracycline	0.5	16
Trimethoprim	2	32
Antimycobacterial drugs - Rifampicin	0.016	0.5
Cephalosporins - Cefoxitin	0.5	16
Fusidanes - Fusidic acid	0.5	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	1	16
Lincosamides - Clindamycin	0.12	4
Macrolides - Erythromycin	0.25	8

Table Antimicrobial susceptibility testing of *S. aureus*, meticillin resistant (MRSA) - spa-type t1456 - CC398 in Cattle (bovine animals) - young cattle (1-2 years) - quantitative data [Dilution method]

CC398 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - young cattle (1-2 years)	
	unknown	
	lowest	highest
Antimicrobials:		
Monocarboxylic acid - Mupirocin	0.5	256
Oxazolidines - Linezolid	1	8
Penicillins - Penicillin	0.12	2
Pleuromutilins - Tiamulin	0.5	4
Streptogramins - Quinupristin/Dalfopristin	0.5	4
Sulfonamides - Sulfamethoxazole	64	512

2.13 Q-FEVER

2.13.1 General evaluation of the national situation

A. *Coxiella burnetii* (Q-fever) general evaluation

History of the disease and/or infection in the country

In 2012, the monitoring of tankmilk continued. The farms with milkgoats and milksheep were tested every 2 months.

For cattle, sheep and goats, in case of abortion, samples are tested against a number of possible infectious agents including *Coxiella burnetii*.

The circulation of *Coxiella burnetii* on cattle farms is known due to the presence of antibodies against *Coxiella burnetii* in the milk.

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

Of the 13 RT-PCR positive milkgoatfarms in 2010, 9 were still/again positive in 2011 and 12 in 2012.

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

There is a steady state in the number of reported cases of human Q-fever in Belgium.

Recent actions taken to control the zoonoses

Milk from goats or sheep herds where *Coxiella burnetii* was found has to be pasteurized before human consumption. The location of positive herds is reported to the public health services for the purpose of warning the medical doctors.

B. Coxiella general evaluation

History of the disease and/or infection in the country

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	FASFC/COD A	Suspect sampling	Official sampling	animal sample > blood	Domestic	ELISA	Animal	422	108	108	
Sheep - at farm - Clinical investigations	FASFC/COD A	Suspect sampling	Official sampling	animal sample > blood	Domestic	ELISA	Animal	77	5	5	
Goats - at farm - Clinical investigations	FASFC/COD A	Suspect sampling	Official sampling	animal sample > blood	Domestic	ELISA	Animal	1676	796	796	
Goats - at farm - Monitoring ¹⁾	FASFC/COD A	Selective sampling	Official and industry sampling	animal sample > milk	Domestic	Real-Time PCR	Herd	108	12	12	0
Cattle (bovine animals) - at farm - Clinical investigations	FASFC/COD A	Suspect sampling	Official sampling	animal sample > foetus/stillbirth	Domestic	Real-Time PCR	Animal	9699	147	147	
Goats - at farm - Clinical investigations	FASFC/COD A	Suspect sampling	Official sampling	animal sample > foetus/stillbirth	Domestic	Real-Time PCR	Animal	1069	110	110	
Sheep - at farm - Clinical investigations	FASFC/COD A	Suspect sampling	Official sampling	animal sample > foetus/stillbirth	Domestic	Real-Time PCR	Animal	503	1	1	

Comments:

¹⁾ Only milk producing flocks are tested every 2 months

Table Coxiella burnetii (Q fever) in animals

2.14 CYSTICERCOSIS, TAENIOSIS

2.14.1 General evaluation of the national situation

A. Cysticerci general evaluation

History of the disease and/or infection in the country

Cattle

Taenia saginata:

2002	total 3.336 (3.317 lightly, 18 heavily contaminated)
2003	total 3.886 (3.859 lightly, 25 heavily contaminated)
2004	total 3.002 (2.981 lightly, 21 heavily contaminated)
2005	total 2.392 (2.376 lightly, 16 heavily contaminated)
2006	total 1.824 (1.796 lightly, 28 heavily contaminated)
2007	total 1.527 (1.517 lightly, 10 heavily contaminated)
2008	total 2.374 (2.356 lightly, 18 heavily contaminated)
2009	total 1.820 (1.811 lightly, 9 heavily contaminated)
2010	total 1.766 (1.756 lightly, 10 heavily contaminated)
2011	total 1.347 (1.336 lightly, 11 heavily contaminated)
2012	total 1.214 (1.205 lightly, 9 heavily contaminated)

Pigs

The Belgian pig population is free from *Cysticercus cellulosae*. *Taenia solium* (and *Cysticercus cellulosae*) is not autochthonous in Belgium.

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

Cysticercus bovis in muscular tissue of cattle is the larval stage of the tapeworm, *Taenia saginata*, a parasitic cestode of the human gut (taeniasis). Cattle can become infected by ingestion of vegetation contaminated with *T. saginata* eggs shed in human faeces. Risk factors are access to rivers and flooding of pastures or wetland.

Humans contaminate themselves by the ingestion of raw or undercooked beef containing the larval form (cysticerci). Usually pathogenicity for humans is low. The tapeworm eggs contaminate the environment directly or through surface waters. Human carriers should be treated promptly. Strict rules for the hygienic disposal or sanitation of human faeces with a method that inactivates *T. saginata* eggs should be developed. The spreading of human excrement on land should not be allowed.

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

Post-mortem, macroscopic examination of carcasses of adult cattle as well as calves is routinely done in all slaughterhouses. Serological examination is possible and confirmation of the lesions by PCR or DNA-test can be done.

Lightly contaminated carcasses are treated by freezing at -18°C for 10 days before declared fit for human consumption. Heavily contaminated carcasses are unfit for human consumption and are destroyed.

Suggestions to the European Union for the actions to be taken

The introduction of serological analyzes for the detection of cysticerci antigens in the serum of animals (cattle) should be developed. This would allow the detection of more cases than by visual inspection of

Belgium - 2012 Report on trends and sources of zoonoses
carcasses at slaughterhouse.

2.14.2 Cysticerci in animals

Table Cysticerci in Animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Cysticerci	Cysticerci of <i>Taenia saginata</i>
Cattle (bovine animals) - meat production animals - at slaughterhouse - Surveillance	FASFC	Suspect sampling	Official sampling	animal sample	Domestic	Animal		824511	1214	1214

Footnote:

Detection of 1205 lightly and 9 heavily contaminated carcasses by meat inspection. Lightly contaminated carcasses are treated by freezing at -18°C for 10 days before declared fit for human consumption. Heavily contaminated carcasses are unfit for human consumption and are destroyed.

2.15 SARCOCYSTOSIS

2.15.1 General evaluation of the national situation

A. Sarcocystis general evaluation

History of the disease and/or infection in the country

At the slaughterhouses, a small number of carcasses showing myositis eosinophila (green coloring spots of the carcass) are detected and notified to the Federal Agency for the Safety of the Food Chain. In case of positive findings, carcasses are totally rejected and declared unfit for human consumption. In 2010, 2011 and 2012 respectively 37, 44 and 60 cases of sarcosporidiosis in cattle were reported.

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

Sarcocystis bovihominis (bovine as intermediate host) and *Sarcocystis suihominis* (porcine intermediate host) occur sporadically. Domestic carnivores are hosts of the adult stage.

Humans can be a definitive host for sarcosporidiosis by ingestion of infected meat or excreted oocysts and develop symptoms like diarrhea, headache, eosinophilia, abortion, congenital disorder.

For human sarcosporidiosis there is no immunity development.

The majority of grazing animals are inapparent carriers of tissue cysts.

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

Carcasses are entirely condemned when myositis eosinophila lesions are apparent. Myositis eosinophila is commonly associated with sarcosporidiosis but this is still not proven!

2.15.2 Sarcocystis in animals

Table Sarcocystis in Animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Sarcocystis	Sarcocystis spp., unspecified
Cattle (bovine animals) - meat production animals - at slaughterhouse - Surveillance	FASFC	Suspect sampling	Official sampling	animal sample	Domestic	Animal		824511	60	60

2.16 HEPATITIS

2.16.1 General evaluation of the national situation

2.17 WEST NILE VIRUS INFECTIONS

2.17.1 General evaluation of the national situation

2.17.2 West Nile Virus in animals

A. West Nile Virus in Animals

Monitoring system

Sampling strategy

A surveillance of 'free range' domestic poultry and wild birds was organized based on the surveillance program of Avian Influenza since 2010. Blood samples of 1600 domestic poultry and 906 wild birds were all negative by IgG ELISA. Virological analyses of 378 pools of live wild birds and 105 pools of intestines and brains of death wild birds were all negative by RT PCR.

A surveillance of horses and bovines was organized in 2012. At random selected horses and horses for intra EU transport/trade were analyzed by IgG ELISA and/or Real Time PCR. Also a surveillance by IgG ELISA was realized of bovines.

Type of specimen taken

Blood

Oropharyngeal swabs

Brain (CNS)

Intestine

Diagnostic/analytical methods used

IgG ELISA

Seroneutralisation test

Real Time PCR

Table West Nile Virus in Animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Vaccination status	Analytical Method	Sampling unit	Region	Units tested	Total units positive for West Nile Virus
Birds - wild - natural habitat - Monitoring - active ¹⁾	CODA CERVA	Selective sampling	Official sampling	animal sample	Unknown	no	Real-Time PCR	Animal	Belgique-België	378	0
Birds - wild - natural habitat - Monitoring - passive ²⁾	CODA CERVA	Suspect sampling	Official sampling	animal sample	Unknown	no	Real-Time PCR	Animal	Belgique-België	210	0
Birds - wild - natural habitat - Surveillance ³⁾	CODA CERVA	Objective sampling	Official sampling	animal sample > brain	Unknown	no	Real-Time PCR	Animal	Belgique-België	105	0
Birds - wild - natural habitat - Surveillance	CODA CERVA	Objective sampling	Official sampling	animal sample > blood	Unknown	no	Real-Time PCR	Animal	Belgique-België	579	0
Birds - wild - natural habitat - Surveillance	CODA CERVA	Objective sampling	Official sampling	animal sample > blood	Unknown	no	IgG ELISA	Animal	Belgique-België	906	0
Birds - wild - natural habitat - Surveillance ⁴⁾	CODA CERVA	Objective sampling	Official sampling	animal sample > organ/tissue	Unknown	no	Real-Time PCR	Animal	Belgique-België	105	0
Cattle (bovine animals) - adult cattle over 2 years - at farm - Surveillance	CODA CERVA	Objective sampling	Official sampling	animal sample > blood	Domestic	no	IgG ELISA	Animal	Belgique-België	1670	0
Poultry, unspecified - at farm - Surveillance	CODA CERVA	Objective sampling	Official sampling	animal sample > blood	Domestic	no	IgG ELISA	Animal	Belgique-België	1600	0
Solipeds, domestic - horses ⁵⁾	CODA CERVA	Objective sampling	Official sampling	animal sample > blood	Domestic	Unknown	Seroneutralisation test	Animal	Belgique-België	33	24
Solipeds, domestic - horses	CODA CERVA	Objective sampling	Official sampling	animal sample > blood	Domestic	Unknown	IgG ELISA	Animal	Belgique-België	746	33
Solipeds, domestic - horses - unspecified - Clinical investigations	CODA CERVA	Suspect sampling	Official sampling	animal sample > brain	Domestic	Unknown	Real-Time PCR	Animal	Belgique-België	5	0

Table West Nile Virus in Animals

Comments:

- 1) oropharyngeal swab of live birds
- 2) oropharyngeal swab of live birds
- 3) death birds
- 4) intestin, death birds
- 5) confirmation

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

A. Escherichia coli general evaluation

Recent actions taken to control the zoonoses

3.1.2 Escherichia coli, non-pathogenic in foodstuffs

A. E. coli in food

Monitoring system

Sampling strategy

The hygiene of slaughtering and cutting process is watched via the evaluation of the contamination of carcasses and cutting meat by indicators of faecal contamination.

Frequency of the sampling

every week

Type of specimen taken

Meat

Methods of sampling (description of sampling techniques)

Broilers and laying hens carcasses are taken at slaughterhouses. At cutting plants about 200g of meat were taken.

Definition of positive finding

Action limits were established for every matrix.

Diagnostic/analytical methods used

ISO method was used to count E. coli in food.

Measures in case of the positive findings or single cases

Monitoring/Not favorable results are sent to the FASFC.

3.1.3 Antimicrobial resistance in Escherichia coli, non-pathogenic

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E.coli, non-pathogenic, unspecified	Gallus gallus (fowl)																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	325	19									1	139	156	10	5	3	9	2							
Aminoglycosides - Kanamycin	8	325	46													265	14	2	3	1	40					
Aminoglycosides - Streptomycin	16	325	265													9	38	13	26	32	207					
Amphenicols - Chloramphenicol	16	325	145												2	58	103	17	36	109						
Amphenicols - Florfenicol	16	325	12												1	125	162	25	5	7						
Cephalosporins - Cefotaxime	0.25	325	91							212	17	5	8	6	12	65										
Fluoroquinolones - Ciprofloxacin	0.03	325	259				53		13	4	36	99	36	15	14	10	45									
Penicillins - Ampicillin	8	325	259												32	29	5		259							
Quinolones - Nalidixic acid	16	325	253													63	6	3	10	243						
Tetracyclines - Tetracycline	8	325	222											15	82	4	2	6	11	205						
Trimethoprim	2	325	223										87	11	4	2	2	1	218							
Cephalosporins - Ceftazidim	0.5	325	81									225	19	23	12	7	14	25								
Polymyxins - Colistin	2	325	14												311	14										
Sulfonamides - Sulfamethoxazole	64	325	260														4	24	27	10	2	1	1		256	

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Gallus gallus (fowl) - quantitative data [Dilution method]

E.coli, non-pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E.coli, non-pathogenic, unspecified	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	205	2									1	78	114	10				2									
Aminoglycosides - Kanamycin	8	205	9													193	3	2		1	6							
Aminoglycosides - Streptomycin	16	205	110													12	58	25	21	23	66							
Amphenicols - Chloramphenicol	16	205	62												2	34	99	8	22	40								
Amphenicols - Florfenicol	16	205	10												5	69	97	24	2	8								
Cephalosporins - Cefotaxime	0.25	205	6							188	11		1	2	1	2												
Fluoroquinolones - Ciprofloxacin	0.03	205	34			7	133		31	9	5	14	1				5											
Penicillins - Ampicillin	8	205	99										2	4	49	49	2	2	97									
Quinolones - Nalidixic acid	16	205	25													172	5	3	5	20								
Tetracyclines - Tetracycline	8	205	126											19	52	6	2	3	7	116								
Trimethoprim	2	205	112										90	2	1	1		1	110									
Cephalosporins - Ceftazidim	0.5	205	7									188	10	2	3	1	1											
Polymyxins - Colistin	2	205	1												204	1												
Sulfonamides - Sulfamethoxazole	64	205	123														13	34	22	13	3	2	1		117			

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

E.coli, non-pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Poultry, unspecified - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E.coli, non-pathogenic, unspecified	Poultry, unspecified																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	2	2	0										1	1													
Aminoglycosides - Kanamycin	8	2	1													1					1						
Aminoglycosides - Streptomycin	16	2	1														1				1						
Amphenicols - Chloramphenicol	16	2	1													1					1						
Amphenicols - Florfenicol	16	2	0													1	1										
Cephalosporins - Cefotaxime	0.25	2	0							2																	
Fluoroquinolones - Ciprofloxacin	0.03	2	1				1					1															
Penicillins - Ampicillin	8	2	2																2								
Quinolones - Nalidixic acid	16	2	1													1					1						
Tetracyclines - Tetracycline	8	2	2																	2							
Trimethoprim	2	2	1										1						1								
Cephalosporins - Ceftazidim	0.5	2	0									2															
Polymyxins - Colistin	2	2	0												2												
Sulfonamides - Sulfamethoxazole	64	2	1																1							1	

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Poultry, unspecified - quantitative data [Dilution method]

E.coli, non-pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Poultry, unspecified	
	unknown	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - mixed herds - quantitative data
[Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E.coli, non-pathogenic, unspecified	Cattle (bovine animals) - mixed herds																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	2	364	22									2	184	153	3	4	4	8	6									
Aminoglycosides - Kanamycin	8	364	79													278	7	3	2	2	72							
Aminoglycosides - Streptomycin	16	364	188													39	113	24	17	33	138							
Amphenicols - Chloramphenicol	16	364	113												9	72	149	21	24	89								
Amphenicols - Florfenicol	16	364	29												11	118	164	42	7	22								
Cephalosporins - Cefotaxime	0.25	364	32							308	18	6	4	7	6	15												
Fluoroquinolones - Ciprofloxacin	0.03	364	123			10	190		41	8	23	49	10	3	2	2	26											
Penicillins - Ampicillin	8	364	204											4	63	85	8	1	203									
Quinolones - Nalidixic acid	16	364	104													239	12	9	8	96								
Tetracyclines - Tetracycline	8	364	212											31	105	11	5	6	10	196								
Trimethoprim	2	364	183										167	13	1	3	2	1	177									
Cephalosporins - Ceftazidim	0.5	364	36									317	11	13	5	7	6	5										
Polymyxins - Colistin	2	364	18												346	18												
Sulfonamides - Sulfamethoxazole	64	364	216														10	54	54	30	5	2	2		207			

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - mixed herds - quantitative data
[Dilution method]

E.coli, non-pathogenic, unspecified	Cattle (bovine animals) - mixed herds	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Kanamycin	4	128
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Amphenicols - Florfenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

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	
Fluoroquinolones	Ciprofloxacin		0.03	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
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	
Fluoroquinolones	Ciprofloxacin		0.03	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

599

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	
Fluoroquinolones	Ciprofloxacin		0.03	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

3.2 ENTEROCOCCUS, NON-PATHOGENIC

3.2.1 General evaluation of the national situation

3.2.2 Enterococcus, non-pathogenic in animals

A. Enterococcus spp., unspecified in Animals

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

The antimicrobial resistance of non-pathogenic enterococci was monitored for the first time in 2011 in poultry, pigs and bovines. There was a high level of resistance in all species. However resistance in strains from bovine origin is lower compared to the strains from pigs and poultry.

3.2.3 Antimicrobial resistance in Enterococcus, non-pathogenic isolates

Table Antimicrobial susceptibility testing of E. faecium in Gallus gallus (fowl) - quantitative data [Dilution method]

E. faecium		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																									
		Gallus gallus (fowl)																									
		unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	32	162	3													10	104	43	2			1	2				
Aminoglycosides - Streptomycin	128	162	102																8	46	6	3	8		91		
Amphenicols - Chloramphenicol	32	162	2												2	25	100	11	22	1	1						
Amphenicols - Florfenicol	8	162	0												29	132	1										
Fluoroquinolones - Ciprofloxacin	4	162	13										4	28	42	75	13										
Penicillins - Ampicillin	4	162	63											51	23	25	40	2	2	9	10						
Tetracyclines - Tetracycline	2	162	127										33	1	1	1	2	1	7	116							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	162	0										75	67	17	3											
Ionophores - Salinomycin	4	162	61											28	14	59	61										
Macrolides - Erythromycin	4	162	120											20	15	7	1	2	1		116						
Oxazolidinones - Linezolid	4	162	0											28	134												
Streptogramins - Quinupristin/Dalfopristin	1	162	148										2	12	9	52	75	8	4								

Table Antimicrobial susceptibility testing of *E. faecium* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	4	512
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. faecalis in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. faecalis	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	32	149	6													1	35	104	3	1	1		4				
Aminoglycosides - Streptomycin	512	149	76															1	2	16	50	1	3		76		
Amphenicols - Chloramphenicol	32	149	4												1	11	131	2		3	1						
Amphenicols - Florfenicol	8	149	0											3	28	117	1										
Fluoroquinolones - Ciprofloxacin	4	149	4										19	105	9	12	1	2	1								
Penicillins - Ampicillin	4	149	10											111	24	4	4	1	2	1	2						
Tetracyclines - Tetracycline	2	149	129										20				1	1	35	92							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	149	4										3	90	46	6				4							
Ionophores - Salinomycin	4	149	21										13	38	27	50	17			4							
Macrolides - Erythromycin	4	149	108											22	17	2	2	3	4	1	98						
Oxazolidines - Linezolid	4	149	4											59	86				4								
Streptogramins - Quinupristin/Dalfopristin	32	149	0									1		3	2	8	42	82	11								

E. faecalis	Gallus gallus (fowl)	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. faecalis* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of Enterococcus spp., unspecified in Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

Enterococcus spp., unspecified	Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year)																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	unknown																											
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
	Aminoglycosides - Gentamicin	32	1	0															1									
	Aminoglycosides - Streptomycin	128	1	0																	1							
	Amphenicols - Chloramphenicol	32	1	0												1												
	Amphenicols - Florfenicol	8	1	0											1													
	Fluoroquinolones - Ciprofloxacin	4	1	0											1													
	Penicillins - Ampicillin	4	1	0												1												
	Tetracyclines - Tetracycline	2	1	0										1														
	Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	1	0											1													
	Ionophores - Salinomycin	4	1	0												1												
	Macrolides - Erythromycin	4	1	0													1											
	Oxazolidines - Linezolid	4	1	0												1												
Streptogramins - Quinupristin/Dalfopristin	1	1	1													1												

Table Antimicrobial susceptibility testing of *Enterococcus* spp., unspecified in Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year) - quantitative data [Dilution method]

Enterococcus spp., unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year)	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	4	512
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of *E. faecium* in Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year)																											
	unknown																											
	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Antimicrobials:																												
Aminoglycosides - Gentamicin	32	58	0													5	42	11										
Aminoglycosides - Streptomycin	128	58	11																7	37	3	1				10		
Amphenicols - Chloramphenicol	32	58	1													12	41	4			1							
Amphenicols - Florfenicol	8	58	1												6	51				1								
Fluoroquinolones - Ciprofloxacin	4	58	2										6	35	2	13	2											
Penicillins - Ampicillin	4	58	4											28	21	5	2		1		1							
Tetracyclines - Tetracycline	2	58	15										41	1	1				2	13								
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	58	1										30	24	3					1								
Ionophores - Salinomycin	4	58	2											23	31	2	1			1								
Macrolides - Erythromycin	4	58	14											19	10	15	2		1		11							
Oxazolidines - Linezolid	4	58	1											1	54	2			1									
Streptogramins - Quinupristin/Dalfopristin	1	58	48										1	9	6	38	2	1	1									

Table Antimicrobial susceptibility testing of *E. faecium* in Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year) - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year)	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	4	512
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of *E. faecalis* in Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. faecalis	Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year)																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	32	28	2													2	8	16		1		1						
Aminoglycosides - Streptomycin	512	28	17														1			4	5	1				17		
Amphenicols - Chloramphenicol	32	28	5												1	9	13			5								
Amphenicols - Florfenicol	8	28	0												16	12												
Fluoroquinolones - Ciprofloxacin	4	28	0										5	16	5	2												
Penicillins - Ampicillin	4	28	2											23	3						2							
Tetracyclines - Tetracycline	2	28	16										11	1		1		1	1	13								
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	28	0										4	17	6	1												
Ionophores - Salinomycin	4	28	0										6	13	5	4												
Macrolides - Erythromycin	4	28	13											8	4	3	1			1	11							
Oxazolidines - Linezolid	4	28	0										2	11	15													
Streptogramins - Quinupristin/Dalfopristin	32	28	0									1			3	8	6	10										

Table Antimicrobial susceptibility testing of *E. faecalis* in Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year) - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year)	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	4	512
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. faecium in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. faecium	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	32	121	2													9	78	28	4	1		1						
Aminoglycosides - Streptomycin	128	121	32														1	1	11	68	8	1	2		29			
Amphenicols - Chloramphenicol	32	121	2												1	31	82	3	2		2							
Amphenicols - Florfenicol	8	121	2											1	17	101			1	1								
Fluoroquinolones - Ciprofloxacin	4	121	4										26	58	20	13	3	1										
Penicillins - Ampicillin	4	121	21											45	33	22	14	1	1		5							
Tetracyclines - Tetracycline	2	121	60										56	3	2					60								
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	121	5										78	31	7		1			4								
Ionophores - Salinomycin	4	121	6										1	57	54	3	2			4								
Macrolides - Erythromycin	4	121	33											14	38	36	4	3	1		25							
Oxazolidines - Linezolid	4	121	4									1			116				4									
Streptogramins - Quinupristin/Dalfopristin	1	121	109										3	9	5	88	10	2	4									

Table Antimicrobial susceptibility testing of *E. faecium* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	4	512
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidinones - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. faecalis in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. faecalis	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	32	22	4														5	13					4					
Aminoglycosides - Streptomycin	512	22	7																	4	9	1	1			7		
Amphenicols - Chloramphenicol	32	22	4													7	9	2		1	3							
Amphenicols - Florfenicol	8	22	0											2	7	13												
Fluoroquinolones - Ciprofloxacin	4	22	1										6	11	3	1				1								
Penicillins - Ampicillin	4	22	0											18	4													
Tetracyclines - Tetracycline	2	22	18										4						1	17								
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	22	0										3	14	5													
Ionophores - Salinomycin	4	22	0										2	11	9													
Macrolides - Erythromycin	4	22	14											6	2		2				12							
Oxazolidines - Linezolid	4	22	0											7	15													
Streptogramins - Quinupristin/Dalfopristin	32	22	0												1	5	1	12	3									

Table Antimicrobial susceptibility testing of *E. faecalis* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	4	512
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidinones - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. durans in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. durans	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	32	15	0														9	6										
Aminoglycosides - Streptomycin	128	15	3																1	8	3					3		
Amphenicols - Chloramphenicol	32	15	0													2	13											
Amphenicols - Florfenicol	8	15	0													15												
Fluoroquinolones - Ciprofloxacin	4	15	0										5	8	1	1												
Penicillins - Ampicillin	4	15	1											9	2	3	1											
Tetracyclines - Tetracycline	2	15	5										10				1			4								
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	15	0										9	4	2													
Ionophores - Salinomycin	4	15	0											3	12													
Macrolides - Erythromycin	4	15	4											5	2	4	3				1							
Oxazolidines - Linezolid	4	15	0												14	1												
Streptogramins - Quinupristin/Dalfopristin	1	15	12										2	1		10	1	1										

Table Antimicrobial susceptibility testing of *E. durans* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data [Dilution method]

E. durans Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	4	512
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. hirae in Pigs - breeding animals - raised under controlled housing conditions - quantitative data
[Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. hirae	Pigs - breeding animals - raised under controlled housing conditions																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	32	85	1													6	51	24	3			1						
Aminoglycosides - Streptomycin	128	85	23																3	44	15	2	1			20		
Amphenicols - Chloramphenicol	32	85	2													49	30		4		2							
Amphenicols - Florfenicol	8	85	2												19	64		1	1									
Fluoroquinolones - Ciprofloxacin	4	85	1										64	12	6	2		1										
Penicillins - Ampicillin	4	85	9											58	11	7	6	1			2							
Tetracyclines - Tetracycline	2	85	56										27	1	1	1		1	4	50								
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	85	3										55	25	2					3								
Ionophores - Salinomycin	4	85	3										1	26	54	1				3								
Macrolides - Erythromycin	4	85	26											56		3	1		1	2	22							
Oxazolidines - Linezolid	4	85	3											5	75	2			3									
Streptogramins - Quinupristin/Dalfopristin	1	85	82											3	2	64	10	2	4									

Table Antimicrobial susceptibility testing of *E. hirae* in Pigs - breeding animals - raised under controlled housing conditions - quantitative data

[Dilution method]

E. hirae Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - breeding animals - raised under controlled housing conditions	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	4	512
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. faecium in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. faecium	Cattle (bovine animals) - mixed herds																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	unknown																										
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	32	100	1													10	66	20	3				1				
Aminoglycosides - Streptomycin	128	100	37															2	8	47	6	2	3		32		
Amphenicols - Chloramphenicol	32	100	1												2	33	56		8	1							
Amphenicols - Florfenicol	8	100	2											2	21	75				2							
Fluoroquinolones - Ciprofloxacin	4	100	2										9	40	21	28	1	1									
Penicillins - Ampicillin	4	100	9											47	33	11	4	1	1	1	2						
Tetracyclines - Tetracycline	2	100	47										52	1		1				46							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	100	1										46	38	14	1				1							
Ionophores - Salinomycin	4	100	3										2	44	49	2	3										
Macrolides - Erythromycin	4	100	42											14	16	28	3	1	1		37						
Oxazolidines - Linezolid	4	100	0										1	12	84	3											
Streptogramins - Quinupristin/Dalfopristin	1	100	82										3	15	7	60	15										

E. faecium	Cattle (bovine animals) - mixed herds	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. faecium* in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - mixed herds	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidinones - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. faecalis in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. faecalis	Cattle (bovine animals) - mixed herds																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	32	58	4													4	25	25			1		3			
Aminoglycosides - Streptomycin	512	58	43															1	2	4	7	1				43
Amphenicols - Chloramphenicol	32	58	30												1	5	20		2	26	4					
Amphenicols - Florfenicol	8	58	1											3	14	40			1							
Fluoroquinolones - Ciprofloxacin	4	58	3										22	27	5	1		1	2							
Penicillins - Ampicillin	4	58	1											46	11			1								
Tetracyclines - Tetracycline	2	58	52										5	1				1	1	50						
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	58	1										4	31	22		1									
Ionophores - Salinomycin	4	58	0										14	36	6	2										
Macrolides - Erythromycin	4	58	48											6	4			1			47					
Oxazolidines - Linezolid	4	58	1									1	2	27	27			1								
Streptogramins - Quinupristin/Dalfopristin	32	58	0									1		3	2	9	13	24	6							

E. faecalis	Cattle (bovine animals) - mixed herds	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. faecalis* in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - mixed herds	
	unknown	
	lowest	highest
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. durans in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. durans	Cattle (bovine animals) - mixed herds																									
	unknown																									
Antimicrobials:	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	32	10	0														8	2								
Aminoglycosides - Streptomycin	128	10	4																2	3	1				4	
Amphenicols - Chloramphenicol	32	10	1													1	8			1						
Amphenicols - Florfenicol	8	10	0												1	9										
Fluoroquinolones - Ciprofloxacin	4	10	0											4	4	2										
Penicillins - Ampicillin	4	10	3											3	3	1	1		2							
Tetracyclines - Tetracycline	2	10	4										5		1					4						
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	10	0										8	2												
Ionophores - Salinomycin	4	10	0											6	4											
Macrolides - Erythromycin	4	10	5											1	3	1	1				4					
Oxazolidines - Linezolid	4	10	0												10											
Streptogramins - Quinupristin/Dalfopristin	1	10	7										1	2		7										

E. durans	Cattle (bovine animals) - mixed herds	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. durans* in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

E. durans Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Cattle (bovine animals) - mixed herds	
	unknown	
	lowest	highest
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. hirae in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. hirae	Cattle (bovine animals) - mixed herds																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	32	17	0													1	8	6	2								
Aminoglycosides - Streptomycin	128	17	5																1	8	3					5	
Amphenicols - Chloramphenicol	32	17	2													5	9		1	2							
Amphenicols - Florfenicol	8	17	1												4	12			1								
Fluoroquinolones - Ciprofloxacin	4	17	1										8	5	2	1		1									
Penicillins - Ampicillin	4	17	1											8	6	2				1							
Tetracyclines - Tetracycline	2	17	7										9	1					1	6							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	17	1										6	7	2	1				1							
Ionophores - Salinomycin	4	17	1											7	9					1							
Macrolides - Erythromycin	4	17	7											7		3		1	1		5						
Oxazolidines - Linezolid	4	17	1											3	13				1								
Streptogramins - Quinupristin/Dalfopristin	1	17	13										2	2	2	8	1	1	1								

E. hirae	Cattle (bovine animals) - mixed herds	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. hirae* in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

E. hirae Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - mixed herds	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. durans in Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. durans	Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year)																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	unknown																											
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048		
Aminoglycosides - Gentamicin	32	14	1													2	5	6		1								
Aminoglycosides - Streptomycin	128	14	2																	10	2	1			1			
Amphenicols - Chloramphenicol	32	14	0													7	7											
Amphenicols - Florfenicol	8	14	0												1	13												
Fluoroquinolones - Ciprofloxacin	4	14	0										8	3		3												
Penicillins - Ampicillin	4	14	1											9	3	1					1							
Tetracyclines - Tetracycline	2	14	4										10							4								
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	14	0										6	8														
Ionophores - Salinomycin	4	14	0											5	9													
Macrolides - Erythromycin	4	14	2											8	1	3					2							
Oxazolidines - Linezolid	4	14	0											1	13													
Streptogramins - Quinupristin/Dalfopristin	1	14	10										2	2	2	7	1											

Table Antimicrobial susceptibility testing of *E. durans* in Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year) - quantitative data [Dilution method]

E. durans Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year)	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	4	512
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of *E. hirae* in Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. hirae Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year)																											
	unknown																											
	Cut-off value	N	n	≤0.002	≤0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	≥4096	1024	2048		
Antimicrobials:																												
Aminoglycosides - Gentamicin	32	61	1													2	15	38	5				1					
Aminoglycosides - Streptomycin	128	61	15														1		1	32	12	1	2		12			
Amphenicols - Chloramphenicol	32	61	1													34	21	4	1	1								
Amphenicols - Florfenicol	8	61	0												16	45												
Fluoroquinolones - Ciprofloxacin	4	61	1										35	11	9	5			1									
Penicillins - Ampicillin	4	61	5											49	7		2				3							
Tetracyclines - Tetracycline	2	61	24										36		1	2	1		3	18								
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	61	5										9	41	6		2			3								
Ionophores - Salinomycin	4	61	6											34	18	3	3			3								
Macrolides - Erythromycin	4	61	20											35	3	3	1	1	1	2	15							
Oxazolidinones - Linezolid	4	61	3											5	52	1			3									
Streptogramins - Quinupristin/Dalfopristin	1	61	44										12	5	3	27	6	4	4									

Table Antimicrobial susceptibility testing of *E. hirae* in Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year) - quantitative data [Dilution method]

E. hirae Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year)	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	4	512
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. durans in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. durans	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	32	14	0													3	4	6	1								
Aminoglycosides - Streptomycin	128	14	6														1		1	3	3	1				5	
Amphenicols - Chloramphenicol	32	14	0													3	7	1	3								
Amphenicols - Florfenicol	8	14	0											1	3	9	1										
Fluoroquinolones - Ciprofloxacin	4	14	0										3	6	3	2											
Penicillins - Ampicillin	4	14	2											5	3	4	2										
Tetracyclines - Tetracycline	2	14	13										1						1	12							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	14	0										3	10	1												
Ionophores - Salinomycin	4	14	6										1	1	2	4	6										
Macrolides - Erythromycin	4	14	9											3	2				2		7						
Oxazolidines - Linezolid	4	14	0											1	13												
Streptogramins - Quinupristin/Dalfopristin	1	14	14												1	7	6										

E. durans	Gallus gallus (fowl)	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. durans* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

E. durans Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

Table Antimicrobial susceptibility testing of E. hirae in Gallus gallus (fowl) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to

E. hirae	Gallus gallus (fowl)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	unknown																										
	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048	
Aminoglycosides - Gentamicin	32	51	0													3	25	20	3								
Aminoglycosides - Streptomycin	128	51	11																4	23	13	1				10	
Amphenicols - Chloramphenicol	32	51	1													28	16	1	5	1							
Amphenicols - Florfenicol	8	51	0												27	24											
Fluoroquinolones - Ciprofloxacin	4	51	0										20	6	18	7											
Penicillins - Ampicillin	4	51	1											39	7	4	1										
Tetracyclines - Tetracycline	2	51	26										23	2			2	3	1	20							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	51	0										18	26	6	1											
Ionophores - Salinomycin	4	51	19											9	11	12	19										
Macrolides - Erythromycin	4	51	20											25	6		1	1			18						
Oxazolidines - Linezolid	4	51	0											13	38												
Streptogramins - Quinupristin/Dalfopristin	1	51	47										1	3	4	34	9										

E. hirae	Gallus gallus (fowl)	
	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. hirae* in *Gallus gallus* (fowl) - quantitative data [Dilution method]

E. hirae Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl)	
	unknown	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Streptomycin	8	1024
Amphenicols - Chloramphenicol	1	128
Amphenicols - Florfenicol	1	64
Fluoroquinolones - Ciprofloxacin	0.5	64
Penicillins - Ampicillin	1	128
Tetracyclines - Tetracycline	0.5	64
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	0.5	64
Ionophores - Salinomycin	0.5	64
Macrolides - Erythromycin	1	128
Oxazolidines - Linezolid	0.25	32
Streptogramins - Quinupristin/Dalfopristin	0.25	32

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	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	

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	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	

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	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	

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	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	

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	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	

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	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 CRONOBACTER

4.1.1 General evaluation of the national situation

4.1.2 Cronobacter in foodstuffs

A. Cronobacter in foodstuffs

Monitoring system

Sampling strategy

Tests for *Cronobacter sakazakii* were performed in foodstuff intended for special nutritional uses, infant formula and milk (prepared milk in bottles for infants and young children).

Frequency of the sampling

Samples are taken according to the national control program or in the frame of RASFF, complaints or suspicion.

Type of specimen taken

Foodstuff intended for special nutritional uses (infants), infant formula and milk (infants)

Methods of sampling (description of sampling techniques)

The samples were taken according to Regulation (EC) No 2073/2005.

Definition of positive finding

To determine the conformity of a sample or a batch, the criteria laid down in the Regulation (EC) No 2073/2005 are applied.

Diagnostic/analytical methods used

The method is used according to Regulation (EC) No 2073/2005.

Measures in case of the positive findings or single cases

Measures to be taken in the case of a non-compliant result:

- Notification of the producer or importer
- Possibility of a counter analysis
- Destruction of the non compliant batch or single sample
- Further investigation: additional sampling, possible recall, RASFF, ...

Table Cronobacter in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Cronobacter	Cronobacter sakazakii	Cronobacter spp, unspecified
Infant formula - dried - at processing plant - Surveillance	TRA 171	Objective sampling	Official sampling	food sample	Unknown	Batch	10 g	5	0	0	0
Foodstuffs intended for special nutritional uses - dried dietary foods for special medical purposes intended for infants below 6 months - at retail - Surveillance	DIS 862	Objective sampling	Official sampling	food sample	Unknown	Batch	10 g	146	0	0	0
Milk from other animal species or unspecified - at hospital or care home - Surveillance (prepared milk in bottles for infants and young children)	DIS 839	Objective sampling	Official sampling	food sample	Unknown	Batch	10 ml	110	0	0	0

4.2 HISTAMINE

4.2.1 General evaluation of the national situation

4.2.2 Histamine in foodstuffs

Table Histamine in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units in non-conformity	<= 100 mg/kg	>100 - <= 200 mg/kg
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at processing plant - Surveillance	TRA 410	Objective sampling	Official sampling	food sample	Unknown	Single		99	0	99	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - Surveillance	DPA 139	Objective sampling	Official sampling	food sample	Unknown	Single		9	0	9	0
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at processing plant - Surveillance	TRA 410	Objective sampling	Official sampling	food sample	Unknown	Single		36	0	36	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at border control - Surveillance	IEC 007	Objective sampling	Official sampling	food sample	Unknown	Single		72	0	69	3

Table Histamine in food

	>200 - <= 400 mg/kg	> 400 mg/kg
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at processing plant - Surveillance	0	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - Surveillance	0	0
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at processing plant - Surveillance	0	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at border control - Surveillance	0	0

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

4.3.2 Staphylococcal enterotoxins in foodstuffs

A. Staphylococcal enterotoxins in foodstuffs

Monitoring system

Sampling strategy

Tests of Staphylococcal enterotoxins were performed in samples with more than 10(6) cfu/g of Staphylococcus present.

Frequency of the sampling

Samples are taken according to the national control program or in the frame of RASFF, complaints or suspicion.

Type of specimen taken

Cheeses

Methods of sampling (description of sampling techniques)

The samples were taken according to Regulation (EC) No 2073/2005.

Definition of positive finding

To determine the conformity of a sample or a batch, the criteria laid down in the Regulation (EC) No 2073/2005 are applied.

Table Staphylococcal enterotoxins in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance	TRA 133	Unspecified	Official sampling	food sample	Unknown	Batch	25 g	1	0
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	TRA 133	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	2	0
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - Surveillance	TRA 133	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	1	0
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at processing plant - Surveillance	TRA 133	Objective sampling	Official sampling	food sample	Domestic	Batch	25 g	1	0

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

In Belgium different authorities are dealing with food-borne outbreaks:

- The Federal Agency for the Safety of the Food chain FASFC deals with safety of foodstuffs, epidemiological investigation on foodstuffs and animal health issues in case of a food-borne outbreak.
- The Communities (Flemish, French and German speaking Community) are dealing with person related matters as human health and can start an epidemiological investigation by Public health medical inspectors in case of a food-borne outbreak.
- The Scientific Institute of Public Health IPH (National Reference Laboratory on Food-borne Outbreaks) analyses all suspected food samples, collects all data on food-borne outbreaks and gives scientific support to the FASFC officers and the Public Health Inspectors.

A national "Platform Food-borne outbreaks", approved by the National Conference of Ministers of Public Health, brings together the different competent authorities on food safety, animal health and public health. Furthermore in 2007, for a better communication, a protected web application was made available to exchange outbreak data and laboratory results in real time between the different authorities dealing with FBO. In this web-application a common file is created for each individual outbreak, and the data and laboratory results are shared between food inspectors and human health inspectors.

Data in this report came from the Federal Agency for the Safety of the Food Chain, the Public Health Inspection, the sentinel laboratories network for human microbiology, and the Federal Reference Centres for Food-borne outbreaks, for *Clostridium botulinum*, for *Salmonella* and *Shigella* and for *Listeria*.

Description of the types of outbreaks covered by the reporting:

A food-borne outbreak is defined as an incidence, observed under given circumstances, of two or more human cases of the same disease and/or infection, or a situation in which the observed number of human cases exceeds the expected number and where the cases are linked, or are probably linked, to the same food source (Directive 2003/99/EC, Article 2(d)). Data are collected from FASFC, the Flemish Community, the French community, the Brussels Common Community Committee, the sentinel laboratories network for human clinical microbiology, and the Federal Reference Centers for Food-borne outbreaks, *Salmonella* and *Shigella*, *Listeria* and *C. botulinum*.

The reporting includes both general and household outbreaks.

The causative agents covered are *Salmonella* spp., *Shigella* spp., *Campylobacter* spp., Verotoxigenic *E.coli*, *Listeria monocytogenes*, *Clostridium botulinum*, *Staphylococcus aureus*, *Bacillus cereus*, *Clostridium perfringens*, *Giardia*, Norovirus, enterotoxins of *Staphylococcus aureus* and *Bacillus cereus* and histamine

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

During 2012, a total of 327 outbreaks of food-borne infections and intoxications were recorded in Belgium. More than 1469 people were ill, at least 59 persons were hospitalized and 1 person died. The number of reported outbreaks increased as compared to previous years, which might be due to an adapted Outbreak investigation procedure and the FASFC since 2011 and/or increased sensibility by consumers. The numbers of people involved are similar as in previous years which is also the case for the number of people hospitalized due to a collective food borne outbreak.

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

In 2012 in total 31 verified outbreaks were reported. In these outbreaks the causative agent was found in the implicated food and or it was clear by analytical epidemiology. All other outbreaks were classified as possible outbreaks where the agent was unknown or the agent could be only detected at human level. Norovirus was the most frequently detected food borne pathogen in nine food borne outbreaks and 94 persons became ill.

The second most reported agents were Salmonella and E. coli O157:H7 with each being at the origin of 6 and 3 outbreaks, respectively. In total 30 persons became ill and 19 were hospitalized due to E. coli O157:H7. Consumption of raw bovine meat was at the origin of these outbreaks. Twenty-six disseminated cases of Salmonella Stanley were reported in different regions of the country. In the other 4 outbreaks, 12 persons became ill and 3 of them were hospitalized. Salmonella was also isolated in a co-infection with Campylobacter, where 2 cases were reported.

Histamine was responsible for 4 outbreaks causing 28 ill people and 2 hospitalizations. High levels of histamine were quantified in tuna fish.

In 1 outbreak, an enterotoxin producing Bacillus cereus could be confirmed in the food and in another outbreak the emetic toxin producing strain could be isolated, which corresponds with the rapid onset of the vomiting symptoms observed in the patients. In the latter outbreak, 20 out of 22 children became ill after the consumption of rice which was contaminated with high levels of Bacillus cereus and its emetic toxin. For one outbreak, enterotoxin producing Bacillus cereus was isolated from nutmeg whereas enterotoxin A producing Staphylococcus aureus could be isolated from sausages. Enterotoxin A producing Staphylococcus aureus was also detected in 3 other outbreaks. For one of those outbreaks 30 human cases were reported and enterotoxin producing Clostridium perfringens was isolated from a human case.

Diarrheic Shellfish poisoning (DSP) was at the origin of 2 outbreaks resulting in 110 ill and was due to the consumption of contaminated mussels.

Thermotolerant Campylobacter was detected in a single outbreak.

In 90% of the outbreaks (N=295 out of 327) no causative agent could be identified. An important reason for this is the absence of leftovers of the suspected meal in most of those outbreaks and late reporting by the consumer. Only in 40% (N=132 out of 327) of the outbreaks, samples (human and/or food) were sent for analysis of which 24% (N=32) resulted in the detection of a causative pathogen. Some of the latter outbreaks have been categorized as a weak evidence outbreak.

Most food-borne outbreaks (31%) were due to the consumption of meals composed of different ingredients. Meat and meat based products were responsible for 17 % of the outbreaks. In 4.2% of the outbreaks the suspected food was unknown.

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

Restaurants and take away or fast food outlets were the most important location of exposure, being the setting of 63,9 % and 8,5 %, respectively, of food-borne outbreaks in Belgium in 2012. Catering at work or institutional catering are reported in respectively 3,3 % and 0,6 % of the food-borne outbreaks. 16,7 % of the outbreaks happened at home.

Descriptions of single outbreaks of special interest

An outbreak of bloody diarrhoea and hemolytic-uremic syndrome (HUS) caused by Escherichia coli O157:

H7 (vt1 vt2 eae positive) occurred in North-East Limburg, Belgium, in June 2012. As of the 4th of July, the outbreak involved 24 cases of which 17 were laboratory-confirmed. Four patients developed HUS, two children and two middle-aged women. The source of the outbreak could be traced back to the slaughterhouse by sampling, exploratory interviews and a case-control study. The patients were most frequently infected through the consumption of raw bovine meat products such as “steak tartare”.

In a children garten, 20 out of 22 children started vomiting within 30 minutes after the consumption of rice with cucumber and chicory. The rice was stored for 24 hours before preparation of the meal. High levels of *Bacillus cereus* (10^7 cfu/g) positive for the gene encoding the emetic toxin could be isolated from leftovers of the meal. Interestingly, the level of cereulide was quantified using LC-MS and was between 0.35-4.2 µg/g.

Control measures or other actions taken to improve the situation

Logistic slaughtering is applied for poultry which means that poultry with a *Salmonella*-free certificate are slaughtered before other poultry. The vaccination of laying hens against salmonellosis, started in 2003 and is mandatory for *Salmonella enteritidis* and is strongly recommended for *Salmonella typhimurium*.

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	2	2
Salmonella - Other serovars	0	unknown	unknown	unknown	4	4
Campylobacter	0	0	0	0	1	1
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	3	3
Bacillus - B. cereus	1	3	0	0	2	3
Bacillus - Other Bacillus	0	unknown	unknown	unknown	0	0
Staphylococcal enterotoxins	0	unknown	unknown	unknown	4	4
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	9	9
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	4	4
Other agents - Marine biotoxins	0	unknown	unknown	unknown	2	2
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		
295	1101	30	1	0	295

Table Foodborne Outbreaks: detailed data for Bacillus

Please use CTRL for multiple selection fields

B. cereus

Value

FBO Code	ID1300
Number of outbreaks	1
Number of human cases	20
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Cereal products including rice and seeds/pulses (nuts, almonds)
More food vehicle information	rice mixed with cucumber
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Storage time/temperature abuse
Mixed Outbreaks (Other Agent)	
Additional information	cereulide toxin levels between 0.35-4.2 µg/g

B. cereus

Value

FBO Code	ID1175
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	served with pasta
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	pasta was not send for analysis but might have cross-contaminated the fish. Bacillus cereus tested positive for enterotoxins.

Table Foodborne Outbreaks: detailed data for Campylobacter

Please use CTRL for multiple selection fields

Campylobacter spp., unspecified

Value

FBO Code	ID1190
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other, mixed or unspecified poultry meat and products thereof
More food vehicle information	chinese meal
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Take-away or fast-food outlet
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Escherichia coli, pathogenic

Please use CTRL for multiple selection fields

Verotoxigenic E. coli (VTEC) - VTEC O157:H7 - eae positive vtx1 and vtx2 positive

Value

FBO Code	ID1227
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Bovine meat and products thereof
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Slaughterhouse
Origin of food vehicle	Domestic
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

Verotoxigenic E. coli (VTEC) - VTEC O157:H7

Value

FBO Code	ID1226
Number of outbreaks	1
Number of human cases	25
Number of hospitalisations	16
Number of deaths	0
Food vehicle	Bovine meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	Household / domestic kitchen
Place of origin of problem	Slaughterhouse
Origin of food vehicle	Domestic
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

Verotoxigenic E. coli (VTEC) - VTEC O157:H7 - eae positive vtx1 and vtx2 positive

Value

FBO Code	ID1104
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Bovine meat and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Household / domestic kitchen
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Other agents

Please use CTRL for multiple selection fields

Histamine

Value

FBO Code	ID1262
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	tuna fish
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	General
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

Value

FBO Code	ID1213
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	tuna fish
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

Marine biotoxins - okadaic acid

Value

FBO Code	ID1347
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	same batch of mussels as ID1346

Marine biotoxins - okadaic acid

Value

FBO Code	ID1346
Number of outbreaks	1
Number of human cases	105
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	General
Setting	Residential institution (nursing home, prison, boarding school)
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

Value

FBO Code	ID1237
Number of outbreaks	1
Number of human cases	20
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	tuna fish
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

Value

FBO Code	ID1182
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	tuna fish
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	Household / domestic kitchen
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Salmonella

Please use CTRL for multiple selection fields

S. Enteritidis

Value

FBO Code	ID1298
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Bovine meat and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Salmonella spp., unspecified

Value

FBO Code	ID1359
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other or mixed red meat and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Take-away or fast-food outlet
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

Value

FBO Code	ID1285
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Bovine meat and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Weltevreden

Value

FBO Code	ID1339
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	crustaceans in pasta
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	Household / domestic kitchen
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	campylobacter spp
Additional information	

S. Schwarzengrund

Value

FBO Code	ID1910
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Broiler meat (Gallus gallus) and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	'Salmonella' spp not specified detected in human

S. Stanley

Value

FBO Code	ID1315
Number of outbreaks	1
Number of human cases	26
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Turkey meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	Household / domestic kitchen
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Staphylococcal enterotoxins

Please use CTRL for multiple selection fields

Enterotoxin A

Value

FBO Code	ID1118
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Broiler meat (Gallus gallus) and products thereof
More food vehicle information	sausages
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterotoxin B

Value

FBO Code	ID1202
Number of outbreaks	1
Number of human cases	30
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Buffet meals
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	enterotoxin Clostridium perfringens
Additional information	C. perfringens isolated from human case

Enterotoxin A

Value

FBO Code	ID1151
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Bovine meat and products thereof
More food vehicle information	sausages
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	enterotoxin producing <i>Bacillus cereus</i>
Additional information	nutmeg used in mashed potatoes was contaminated with <i>bacillus cereus</i>

Enterotoxin A

Value

FBO Code	ID1348
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Viruses

Please use CTRL for multiple selection fields

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	ID1345
Number of outbreaks	1
Number of human cases	13
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	sandwich with steak tartare and fresh vegetables
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	ID1389
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	Hospital/medical care facility
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	Norovirus GII

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	ID1752
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	ID1217
Number of outbreaks	1
Number of human cases	45
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	setting: recreation place

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	ID1363
Number of outbreaks	1
Number of human cases	13
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	ID1177
Number of outbreaks	1
Number of human cases	16
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Buffet meals
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	ID1386
Number of outbreaks	1
Number of human cases	9
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Vegetables and juices and other products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	Norovirus GII

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	ID1372
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	Household / domestic kitchen
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	Norovirus GII

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	ID1141
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	