

NETHERLANDS

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

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

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

IN 2013

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Netherlands

Reporting Year: 2013

Laboratory name	Description	Contribution
CVI	Central Veterinary Institute	
VMDC	Veterinary Microbiological Diagnostic Centre	
PPE	Product Boards for Livestock, Meat and Eggs	
PDV	Product Board Animal Feed	
GD	Animal Health Service	
RIVM	National Institute for Public Health and the Environment	
NVWA	Dutch Food and Consumer Product Safety Authority	

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 Netherlands during the year 2013 .

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

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

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

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

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

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1. ANIMAL POPULATIONS

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

Table Susceptible animal populations

* Only if different than current reporting year

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			55000	2013				
	dairy cows and heifers			502384	2013				
	calves (under 1 year)			1421900	2013				
	- in total			1979284	2013	3997013	2013	50990	2013
Ducks	- in total					651914	2013	37	2013
Gallus gallus (fowl)	breeding flocks, unspecified - in total					10303234	2013	148	2013
	laying hens			15613400	2013	32309425	2013	942	2013
	broilers			536272100	2013	46139408	2013	611	2013
	mixed flocks/holdings			29900	2013				
	- in total			550915400	2013	98777727	2013	2139	2013
Goats	milk goats							370	2013
	- in total			129829	2013	505116	2013	23657	2013
Pigs	- in total			13711902	2013	12212000	2013	10940	2013

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*
Sheep	- in total			546666	2013	1286069	2013	39954	2013
Solipeds, domestic	horses - in total			4710	2013				
Turkeys	- in total			1600	2013	645189	2013	58	2013
Wild boars	farmed - in total			1315	2013				

2. INFORMATION ON SPECIFIC ZOO NOSES AND ZOONOTIC AGENTS

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

2.1 SALMONELLOSIS

2.1.1 General evaluation of the national situation

2.1.2 Salmonella in foodstuffs

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from broilers (Gallus gallus) - fresh - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat	Domestic	Single	25g	600	19	2	1
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat	Domestic	Batch	25g	42	4		
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat	Domestic	Single	25g	595	19	6	
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat	Domestic	Batch	25g	6	0		
Meat from turkey - fresh - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	54	0		
Meat from turkey - meat products - raw but intended to be eaten cooked - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Batch	25g	5	1		1
Meat from broilers (Gallus gallus) - Processing plant - Surveillance (separator meat)	NVWA	Objective sampling	Official sampling	food sample > meat		Batch	25g	16	11	2	

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) - Surveillance (separator meat, import)	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	132	5	2	
Meat from turkey - fresh - Surveillance (import)	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	26	4		
Meat from turkey - meat preparation - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	5	0		

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Meat from broilers (Gallus gallus) - fresh - Retail - Surveillance		16
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Processing plant - Surveillance		4
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Retail - Surveillance		13
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - Processing plant - Surveillance		
Meat from turkey - fresh - Retail - Surveillance		
Meat from turkey - meat products - raw but intended to be eaten cooked - Processing plant - Surveillance		

Table Salmonella in poultry meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Meat from broilers (Gallus gallus) - Processing plant - Surveillance (separator meat)	1	8
Meat from broilers (Gallus gallus) - Surveillance (separator meat, import)		3
Meat from turkey - fresh - Surveillance (import)		4
Meat from turkey - meat preparation - Retail - 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
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample	Domestic	Single	25g	185	0		
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample		Single	25g	27	0		
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample		Single	25g	49	0		
	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 - Retail - Surveillance											
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - Retail - Surveillance											
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - Retail - Surveillance											

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
Seeds, sprouted - ready-to-eat - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample		Batch	25g	30	0		
Fish - raw - Retail - Surveillance (sushi)	NVWA	Objective sampling	Official sampling	food sample		Single	25g	533	0		
Fruits - Retail - Surveillance (melon, ready-to-eat)	NVWA	Objective sampling	Official sampling	food sample		Single	25g	318	0		
Fruits - Surveillance (melon, ready-to-eat, import)	NVWA	Objective sampling	Official sampling	food sample		Single	25g	30	1		
Other food - Processing plant - Surveillance (peanut butter)	NVWA	Objective sampling	Official sampling	food sample		Batch	25g	34	0		
Other food of non-animal origin - Processing plant - Surveillance (bean curd)	NVWA	Objective sampling	Official sampling	food sample		Batch	25g	31	0		
Other food of non-animal origin - Surveillance (chocolate (paste))	NVWA	Objective sampling	Official sampling	food sample		Batch	25g	31	0		
Other food of non-animal origin - Surveillance (sesam paste)	NVWA	Objective sampling	Official sampling	food sample		Batch	25g	47	1		
Spices and herbs - dried - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample		Batch	25g	215	4		1
Spices and herbs - dried - Surveillance (import)	NVWA	Objective sampling	Official and industry sampling	food sample		Batch	25g	19	1		
Spices and herbs - fresh - Surveillance (import)	NVWA	Objective sampling	Official sampling	food sample		Batch	25g	19	2		

Table Salmonella in other food

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Seeds, sprouted - ready-to-eat - Processing plant - Surveillance		
Fish - raw - Retail - Surveillance (sushi)		
Fruits - Retail - Surveillance (melon, ready-to-eat)		
Fruits - Surveillance (melon, ready-to-eat, import)		1
Other food - Processing plant - Surveillance (peanut butter)		
Other food of non-animal origin - Processing plant - Surveillance (bean curd)		
Other food of non-animal origin - Surveillance (chocolate (paste))		
Other food of non-animal origin - Surveillance (sesam paste)		1
Spices and herbs - dried - Processing plant - Surveillance		3
Spices and herbs - dried - Surveillance (import)		1
Spices and herbs - fresh - Surveillance (import)		2

Table Salmonella in red meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from pig - fresh - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	708	4		1
Meat from pig - minced meat - intended to be eaten cooked - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Batch	25g	6	1		
Meat from pig - minced meat - intended to be eaten cooked - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	19	0		
Meat from pig - meat preparation - intended to be eaten cooked - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Batch	25g	38	3		
Meat from pig - meat preparation - intended to be eaten cooked - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	466	2		
Meat from pig - meat products - raw but intended to be eaten cooked - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	6	0		
Meat from bovine animals - fresh - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	435	2	1	
Meat from bovine animals - minced meat - intended to be eaten cooked - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Batch	25g	14	0		
Meat from bovine animals - minced meat - intended to be eaten cooked - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	190	1		1
Meat from bovine animals - meat preparation - intended to be eaten cooked - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Batch	25g	37	1		
Meat from bovine animals - meat preparation - intended to be eaten cooked - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	403	0		

Table Salmonella in red meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from bovine animals - meat products - raw but intended to be eaten cooked - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Batch	25g	3	0		
Meat from bovine animals - meat products - raw but intended to be eaten cooked - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	29	0		
Meat from sheep - fresh - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	52	0		
Other products of animal origin - gelatin and collagen - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample		Batch	25g	11	0		
Meat from sheep - meat preparation - intended to be eaten cooked - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	19	0		
Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample > carcase swabs		Single	25g	7	0		

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Meat from pig - fresh - Retail - Surveillance	2	1
Meat from pig - minced meat - intended to be eaten cooked - Processing plant - Surveillance		1
Meat from pig - minced meat - intended to be eaten cooked - Retail - Surveillance		
Meat from pig - meat preparation - intended to be eaten cooked - Processing plant - Surveillance	1	2

Table Salmonella in red meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Meat from pig - meat preparation - intended to be eaten cooked - Retail - Surveillance		2
Meat from pig - meat products - raw but intended to be eaten cooked - Retail - Surveillance		
Meat from bovine animals - fresh - Retail - Surveillance		1
Meat from bovine animals - minced meat - intended to be eaten cooked - Processing plant - Surveillance		
Meat from bovine animals - minced meat - intended to be eaten cooked - Retail - Surveillance		
Meat from bovine animals - meat preparation - intended to be eaten cooked - Processing plant - Surveillance		1
Meat from bovine animals - meat preparation - intended to be eaten cooked - Retail - Surveillance		
Meat from bovine animals - meat products - raw but intended to be eaten cooked - Processing plant - Surveillance		
Meat from bovine animals - meat products - raw but intended to be eaten cooked - Retail - Surveillance		
Meat from sheep - fresh - Retail - Surveillance		
Other products of animal origin - gelatin and collagen - Processing plant - Surveillance		

Table Salmonella in red meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Meat from sheep - meat preparation - intended to be eaten cooked - Retail - Surveillance		
Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Surveillance		

2.1.3 Salmonella in animals

Table Salmonella in breeding flocks of Gallus gallus

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes			Census	Official and industry sampling			yes				
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - Control and eradication programmes ¹⁾	39	PPE	Objective sampling	Industry sampling		Domestic	yes	Flock	39	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - Control and eradication programmes	39	PPE	Objective sampling	Industry sampling	animal sample > faeces	Domestic	yes	Flock	39	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - Control and eradication programmes	110	PPE	Census	Official and industry sampling	animal sample > faeces	Domestic	yes	Flock	110	0	
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - day-old chicks - Control and eradication programmes ²⁾	20	PPE	Objective sampling	Industry sampling		Domestic	yes	Flock	20	0	
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - during rearing period - Control and eradication programmes	20	PPE	Objective sampling	Industry sampling	animal sample > faeces	Domestic	yes	Flock	20	0	
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - adult - Control and eradication programmes	30	PPE	Census	Official and industry sampling	animal sample > faeces	Domestic	yes	Flock	30	0	

Table Salmonella in breeding flocks of Gallus gallus

	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - Control and eradication programmes ¹⁾						
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - Control and eradication programmes						
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - Control and eradication programmes						
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - day-old chicks - Control and eradication programmes ²⁾						
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - during rearing period - Control and eradication programmes						
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - adult - Control and eradication programmes						

Comments:

¹⁾ box paper sample²⁾ box paper sample

Table Salmonella in breeding flocks of Gallus gallus

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:-
Sheep - Farm - Monitoring	GD			animal sample > organ/tissue		Animal	336	2			
Goats - Farm - Monitoring	GD			animal sample > organ/tissue		Animal	199	4			
Pigs - fattening pigs - Farm - Monitoring	NVWA			animal sample > faeces	Domestic	Flock	185	97		16	13
Birds - wild - Unknown - Clinical investigations	VMDC			animal sample > faeces		Animal	81	6			
Cats - pet animals - Unknown - Clinical investigations	VMDC			animal sample > faeces		Animal	195	5			
Cattle (bovine animals) - Farm - Clinical investigations	VMDC			animal sample > faeces		Animal	40	3			
Cattle (bovine animals) - Farm - Monitoring	GD			animal sample > organ/tissue		Animal	3055	197		108	
Cattle (bovine animals) - Farm - Monitoring (feces)	GD			animal sample > faeces		Animal	26734	1165	6	212	
Dogs - pet animals - Unknown - Clinical investigations	VMDC			animal sample > faeces		Animal	443	13			
Other animals - exotic pet animals - Unknown - Clinical investigations	VMDC			animal sample > faeces		Animal	372	2			
Pigs - fattening pigs - Monitoring (Samples taken at farm and at slaughterhouse)	PPE			animal sample > blood	Domestic	Animal	186909	31775			

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:-
Solipeds, domestic - horses - Farm - Clinical investigations	VMDC			animal sample > faeces		Animal	163	5			
	Salmonella spp., unspecified	S. Derby	S. Dublin								
Sheep - Farm - Monitoring	2										
Goats - Farm - Monitoring	4										
Pigs - fattening pigs - Farm - Monitoring	48	20									
Birds - wild - Unknown - Clinical investigations	6										
Cats - pet animals - Unknown - Clinical investigations	5										
Cattle (bovine animals) - Farm - Clinical investigations	3										
Cattle (bovine animals) - Farm - Monitoring	50		39								
Cattle (bovine animals) - Farm - Monitoring (feces)	870		77								
Dogs - pet animals - Unknown - Clinical investigations	13										
Other animals - exotic pet animals - Unknown - Clinical investigations	2										
Pigs - fattening pigs - Monitoring (Samples taken at farm and at slaughterhouse)	31775										

Table Salmonella in other animals

	Salmonella spp., unspecified	S. Derby	S. Dublin
Solipeds, domestic - horses - Farm - Clinical investigations	5		

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 - during rearing period - Control and eradication programmes	1065	PPE	Census	Industry sampling	animal sample > faeces	Domestic	yes	Flock	1065	0	
Gallus gallus (fowl) - laying hens - adult - Farm - Control and eradication programmes	3457	PPE	Census	Official and industry sampling	animal sample > faeces	Domestic	yes	Flock	3457	25	19
Gallus gallus (fowl) - broilers - day-old chicks - Control and eradication programmes ¹⁾	15929	PPE	Census	Industry sampling		Domestic	yes	Flock	15929	50	1
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes	15929	PPE	Census	Official sampling	environmental sample > boot swabs	Domestic	yes	Flock	70	15	
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes	15929	PPE	Census	Industry sampling	environmental sample > boot swabs	Domestic	yes	Flock	15859	754	8
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes	15929	PPE	Census	Official and industry sampling	environmental sample > boot swabs	Domestic	yes	Flock	15929	769	8
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes			Census	Official and industry sampling			yes				
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes			Census	Industry sampling			yes				
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes				Official sampling			yes				
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes	273	PPE	Census	Official and industry sampling	environmental sample > boot swabs	Domestic	yes	Flock	273	1	
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes			Census	Industry sampling			yes				

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
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes				Official sampling			yes				
		S. Typhimurium	S. 1,4,[5],12:i:-		Salmonella spp., unspecified						
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes											
Gallus gallus (fowl) - laying hens - adult - Farm - Control and eradication programmes	5	1									
Gallus gallus (fowl) - broilers - day-old chicks - Control and eradication programmes ¹⁾	7									42	
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes										15	
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes	25	1								720	
Gallus gallus (fowl) - broilers - before slaughter - Farm - Control and eradication programmes	25	1								735	
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes											
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes											
Turkeys - breeding flocks, unspecified - adult - Farm - Control and eradication programmes											

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes			1
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes			
Turkeys - fattening flocks - before slaughter - Farm - Control and eradication programmes			

Comments:

¹⁾ boxpaper sample

2.1.4 Antimicrobial resistance in Salmonella isolates

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

Salmonella	S. Typhimurium		S. 1,4,[5],12:i:-		S. Dublin		S. Infantis		Salmonella spp.		Other serovars	
	Isolates out of a monitoring program (yes/no)		yes		yes		yes		yes		yes	
	Number of isolates available in the laboratory		13		15		14		51		9	
	N	n	N	n	N	n	N	n	N	n	N	n
Antimicrobials:												
Fully sensitive	13	3	15	0	14	11			51	23	9	9
Resistant to 1 antimicrobial	13	0	15	1	14	1			51	2	9	0
Resistant to 2 antimicrobials	13	0	15	0	14	0			51	0	9	0
Resistant to 3 antimicrobials	13	0	15	0	14	1			51	8	9	0
Resistant to 4 antimicrobials	13	2	15	10	14	1			51	13	9	0
Resistant to >4 antimicrobials	13	1	15	4	14	0			51	5	9	0
Number of multiresistant S. Typhimurium - with penta resistance	13	1										

Table Antimicrobial susceptibility testing of Salmonella in meat from bovine animals

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

Table Antimicrobial susceptibility testing of Salmonella in meat from bovine animals

Salmonella	S. Typhimurium		S. 1,4,[5],12:i:-		S. Dublin		S. Infantis		Salmonella spp.		S. Enteritidis		S. Goldcoast	
Isolates out of a monitoring program (yes/no)	yes				yes						yes		yes	
Number of isolates available in the laboratory	1				1						1		1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Sulfonamides - Sulfamethoxazole	1	1			1	0					1	0	1	0

Table Antimicrobial susceptibility testing of Salmonella in Pigs

Salmonella	S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		S. Agona		Salmonella spp.		Other serovars		S. Goldcoast	
Isolates out of a monitoring program (yes/no)	yes		yes		yes				yes		yes		yes	
Number of isolates available in the laboratory	26		25		27				71		10		3	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Fully sensitive	26	7	25	2	27	14			71	20	10	4	3	0
Resistant to 1 antimicrobial	26	6	25	3	27	5			71	11	10	0	3	0
Resistant to 2 antimicrobials	26	0	25	0	27	0			71	2	10	2	3	2
Resistant to 3 antimicrobials	26	3	25	0	27	5			71	4	10	0	3	0
Resistant to 4 antimicrobials	26	6	25	16	27	3			71	21	10	0	3	0
Resistant to >4 antimicrobials	26	4	25	4	27	0			71	13	10	4	3	1
Number of multiresistant S. Typhimurium - with penta resistance	26	3												

Table Antimicrobial susceptibility testing of Salmonella in meat from pig

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		S. Agona		Salmonella spp.	
			yes		yes					
			3		3					
	N	n	N	n	N	n	N	n	N	n
Antimicrobials:										
Aminoglycosides - Gentamicin			3	0	3	0				
Aminoglycosides - Kanamycin			3	0	3	0				
Aminoglycosides - Streptomycin			3	3	3	1				
Amphenicols - Chloramphenicol			3	0	3	0				
Amphenicols - Florfenicol			3	0	3	0				
Fluoroquinolones - Ciprofloxacin			3	0	3	0				
Penicillins - Ampicillin			3	3	3	0				
Quinolones - Nalidixic acid			3	0	3	0				
Tetracyclines - Tetracycline			3	3	3	1				
Trimethoprim			3	0	3	1				
Fully sensitive			3	0	3	1				
Resistant to 1 antimicrobial			3	0	3	1				
Resistant to 2 antimicrobials			3	0	3	0				
Resistant to 3 antimicrobials			3	0	3	0				
Resistant to 4 antimicrobials			3	3	3	1				
Resistant to >4 antimicrobials			3	0	3	0				
Cephalosporins - Cefotaxime			3	0	3	0				
Cephalosporins - Ceftazidime			3	0	3	0				
Polymyxins - Colistin			3	0	3	0				

Table Antimicrobial susceptibility testing of Salmonella in meat from pig

Salmonella	S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		S. Agona		Salmonella spp.	
Isolates out of a monitoring program (yes/no)			yes		yes					
Number of isolates available in the laboratory			3		3					
Antimicrobials:	N	n	N	n	N	n	N	n	N	n
Sulfonamides - Sulfamethoxazole			3	3	3	2				

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

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Java		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.		S. Heidelberg		S. Minnesota		S. Paratyphi B	
	yes								yes								yes				yes		yes		yes	
	8								5								10				78		5		23	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin	8	0							5	0							10	0			78	4	5	1	23	0
Aminoglycosides - Kanamycin	8	0							5	0							10	0			78	1	5	4	23	8
Aminoglycosides - Streptomycin	8	0							5	1							10	8			78	23	5	1	23	22
Amphenicols - Chloramphenicol	8	0							5	3							10	1			78	1	5	0	23	1
Amphenicols - Florfenicol	8	0							5	1							10	0			78	0	5	0	23	1
Fluoroquinolones - Ciprofloxacin	8	5							5	4							10	8			78	77	5	2	23	11
Penicillins - Ampicillin	8	2							5	3							10	0			78	66	5	4	23	7
Quinolones - Nalidixic acid	8	5							5	4							10	8			78	77	5	1	23	9
Tetracyclines - Tetracycline	8	0							5	1							10	6			78	78	5	5	23	2
Trimethoprim	8	0							5	1							10	3			78	1	5	0	23	22
Fully sensitive	8	3							5	0							10	0			78	0	5	0	23	0
Resistant to 1 antimicrobial	8	0							5	0							10	2			78	0	5	0	23	1
Resistant to 2 antimicrobials	8	0							5	0							10	1			78	0	5	0	23	1
Resistant to 3 antimicrobials	8	5							5	2							10	1			78	0	5	0	23	2
Resistant to 4 antimicrobials	8	0							5	1							10	0			78	8	5	1	23	14
Resistant to >4 antimicrobials	8	0							5	2							10	6			78	70	5	4	23	5
Cephalosporins - Cefotaxime	8	0							5	2							10	0			78	66	5	4	23	1
Cephalosporins - Ceftazidime	8	0							5	2							10	0			78	65	5	4	23	1
Polymyxins - Colistin	8	3							5	0							10	1			78	1	5	0	23	1

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

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Java		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.		S. Heidelberg		S. Minnesota		S. Paratyphi B	
	yes								yes								yes				yes		yes		yes	
	8								5								10				78		5		23	
	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Sulfonamides - Sulfamethoxazole	8	0							5	1							10	6			78	78	5	5	23	14

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

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.		S. Anatum		S. Brandenburg	
	no						yes				yes								yes		yes	
							2				9								4		2	
	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Isolates out of a monitoring program (yes/no)																						
Number of isolates available in the laboratory																						
Antimicrobials:																						
Aminoglycosides - Gentamicin							2	0			9	1							4	0	2	1
Aminoglycosides - Kanamycin							2	0			9	0							4	0	2	0
Aminoglycosides - Streptomycin							2	1			9	9							4	2	2	1
Amphenicols - Chloramphenicol							2	1			9	0							4	1	2	0
Amphenicols - Florfenicol							2	0			9	0							4	1	2	0
Fluoroquinolones - Ciprofloxacin							2	2			9	9							4	3	2	2
Penicillins - Ampicillin							2	1			9	0							4	3	2	1
Quinolones - Nalidixic acid							2	2			9	9							4	3	2	1
Tetracyclines - Tetracycline							2	0			9	9							4	1	2	0
Trimethoprim							2	0			9	0							4	1	2	0
Fully sensitive							2	0			9	0							4	0	2	0
Resistant to 1 antimicrobial							2	0			9	0							4	0	2	0
Resistant to 2 antimicrobials							2	0			9	0							4	0	2	1
Resistant to 3 antimicrobials							2	1			9	0							4	0	2	0
Resistant to 4 antimicrobials							2	0			9	8							4	1	2	0
Resistant to >4 antimicrobials							2	1			9	1							4	3	2	1
Cephalosporins - Cefotaxime							2	1			9	0							4	3	2	0
Cephalosporins - Ceftazidime							2	1			9	0							4	1	2	0
Polymyxins - Colistin							2	0			9	0							4	1	2	0

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

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.		S. Anatum		S. Brandenburg	
	no						yes				yes								yes		yes	
							2				9								4		2	
	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Sulfonamides - Sulfamethoxazole							2	0			9	1							4	1	2	1

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

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.		Other serovars	
Isolates out of a monitoring program (yes/no)																	yes		yes	
Number of isolates available in the laboratory																	35		23	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Fully sensitive																	35	25	23	14
Resistant to 1 antimicrobial																	35	2	23	1
Resistant to 2 antimicrobials																	35	4	23	4
Resistant to 3 antimicrobials																	35	1	23	1
Resistant to 4 antimicrobials																	35	2	23	2
Resistant to >4 antimicrobials																	35	1	23	1

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

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Java		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.		Other serovars		S. Heidelberg	
	Isolates out of a monitoring program (yes/no)		yes				yes										yes		yes		yes		yes	
	Number of isolates available in the laboratory		20				56										34		230		37		37	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Fully sensitive			20	8			56	0									34	7	230	61	37	26	37	0
Resistant to 1 antimicrobial			20	2			56	0									34	4	230	14	37	4	37	0
Resistant to 2 antimicrobials			20	0			56	8									34	0	230	19	37	0	37	0
Resistant to 3 antimicrobials			20	1			56	13									34	0	230	22	37	1	37	2
Resistant to 4 antimicrobials			20	8			56	22									34	6	230	47	37	3	37	4
Resistant to >4 antimicrobials			20	1			56	14									34	14	230	67	37	3	37	31
Number of multiresistant S. Typhimurium - with penta resistance			20	1																				

Table Antimicrobial susceptibility testing of Salmonella in Gallus gallus (fowl) - mixed flocks/holdings - Monitoring

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	S. Enteritidis	
	yes	
	36	
Antimicrobials:	N	n
Fully sensitive	36	25
Resistant to 1 antimicrobial	36	3
Resistant to 2 antimicrobials	36	6
Resistant to 3 antimicrobials	36	1
Resistant to 4 antimicrobials	36	0
Resistant to >4 antimicrobials	36	1

Footnote:

These are laying hens (n=12) and broilers (n=24) together.

Table Antimicrobial susceptibility testing of Salmonella spp. in Meat from bovine animals - quantitative data [Dilution method]

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

Salmonella spp.	Meat from bovine animals																										
	yes																										
	4																										
	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	4	0	0	0	0	0	0	0	0	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	
Aminoglycosides - Kanamycin	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	
Aminoglycosides - Streptomycin	16	4	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	0	
Amphenicols - Chloramphenicol	16	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	0	0	
Amphenicols - Florfenicol	16	4	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0	
Cephalosporins - Cefotaxime	0.5	4	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fluoroquinolones - Ciprofloxacin	0.064	4	1	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Penicillins - Ampicillin	8	4	1	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	1	0	0	0	0	0	0	
Quinolones - Nalidixic acid	16	4	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0	
Tetracyclines - Tetracycline	8	4	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	
Trimethoprim	2	4	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cephalosporins - Ceftazidime	2	4	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
Polymyxins - Colistin	16	4	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	
Sulfonamides - Sulfamethoxazole	256	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Meat from bovine animals - quantitative data [Dilution method]

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from bovine animals	
	yes	
	4	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis in Meat from bovine animals - Monitoring - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Meat from bovine animals - Monitoring																											
		yes																											
		1																											
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	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Aminoglycosides - Kanamycin	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0			
Aminoglycosides - Streptomycin	16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0			
Amphenicols - Chloramphenicol	16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0			
Amphenicols - Florfenicol	16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0			
Cephalosporins - Cefotaxime	0.5	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Fluoroquinolones - Ciprofloxacin	0.064	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0			
Penicillins - Ampicillin	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0			
Quinolones - Nalidixic acid	16	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0			
Tetracyclines - Tetracycline	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0			
Trimethoprim	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0			
Cephalosporins - Ceftazidime	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0			
Polymyxins - Colistin	16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0			
Sulfonamides - Sulfamethoxazole	256	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0			

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Meat from bovine animals - Monitoring - quantitative data [Dilution method]

S. Enteritidis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from bovine animals - Monitoring	
	yes	
	1	
	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Meat from bovine animals - Monitoring - 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		Meat from bovine animals - Monitoring																									
		yes																									
		1																									
		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	1024	2048	>4096
Antimicrobials:																											
Aminoglycosides - Gentamicin	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
Aminoglycosides - Kanamycin	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
Aminoglycosides - Streptomycin	16	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
Amphenicols - Chloramphenicol	16	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
Amphenicols - Florfenicol	16	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
Cephalosporins - Cefotaxime	0.5	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fluoroquinolones - Ciprofloxacin	0.064	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Penicillins - Ampicillin	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
Quinolones - Nalidixic acid	16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
Tetracyclines - Tetracycline	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
Trimethoprim	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cephalosporins - Ceftazidime	2	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Polymyxins - Colistin	16	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
Sulfonamides - Sulfamethoxazole	256	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Meat from bovine animals - Monitoring - quantitative data [Dilution method]

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from bovine animals - Monitoring	
	yes	
	1	
	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Dublin in Meat from bovine animals - quantitative data [Dilution method]

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

S. Dublin	Meat from bovine animals																											
	yes																											
	1																											
	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	1024	2048	>4096		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	1	0										1															
Aminoglycosides - Kanamycin	8	1	0													1												
Aminoglycosides - Streptomycin	16	1	1																1									
Amphenicols - Chloramphenicol	16	1	0														1											
Amphenicols - Florfenicol	16	1	0													1												
Cephalosporins - Cefotaxime	0.5	1	0							1																0		
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																			
Penicillins - Ampicillin	8	1	0											1														
Quinolones - Nalidixic acid	16	1	0													1												
Tetracyclines - Tetracycline	8	1	0												1													
Trimethoprim	2	1	0										1															
Cephalosporins - Ceftazidime	2	1	0									1																
Polymyxins - Colistin	16	1	0												1													
Sulfonamides - Sulfamethoxazole	256	1	0																1									

Table Antimicrobial susceptibility testing of S. Dublin in Meat from bovine animals - quantitative data [Dilution method]

S. Dublin	Meat from bovine animals	
	Isolates out of a monitoring program (yes/no)	
	yes	
	Number of isolates available in the laboratory	
Antimicrobials:	1	
	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	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Goldcoast in Meat from bovine animals - Monitoring - quantitative data [Dilution method]

S. Goldcoast Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Meat from bovine animals - Monitoring																											
		yes																											
		1																											
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	1024	2048	>4096			
Aminoglycosides - Gentamicin	2	1	0										1																
Aminoglycosides - Kanamycin	8	1	0													1													
Aminoglycosides - Streptomycin	16	1	0														1												
Amphenicols - Chloramphenicol	16	1	0														1												
Amphenicols - Florfenicol	16	1	0													1													
Cephalosporins - Cefotaxime	0.5	1	0								1																		
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																				
Penicillins - Ampicillin	8	1	0											1															
Quinolones - Nalidixic acid	16	1	0														1												
Tetracyclines - Tetracycline	8	1	0												1														
Trimethoprim	2	1	0										1																
Cephalosporins - Ceftazidime	2	1	0										1																
Polymyxins - Colistin	16	1	0											1															
Sulfonamides - Sulfamethoxazole	256	1	0																		1								

Table Antimicrobial susceptibility testing of *S. Goldcoast* in Meat from bovine animals - Monitoring - quantitative data [Dilution method]

S. Goldcoast Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from bovine animals - Monitoring	
	yes	
	1	
	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Salmonella spp. in Other food - Monitoring (crocodile meat) - quantitative data [Dilution method]

Salmonella spp.		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Other food - Monitoring (crocodile meat)																											
		yes																											
		3																											
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	1024	2048	>4096			
Aminoglycosides - Gentamicin	2	3	0										3																
Aminoglycosides - Kanamycin	8	3	0													3													
Aminoglycosides - Streptomycin	16	3	1														1	1				1							
Amphenicols - Chloramphenicol	16	3	1													1	1				1								
Amphenicols - Florfenicol	16	3	1													2					1								
Cephalosporins - Cefotaxime	0.5	3	0							2	1																		
Fluoroquinolones - Ciprofloxacin	0.064	3	0				1		2																				
Penicillins - Ampicillin	8	3	0											3															
Quinolones - Nalidixic acid	16	3	0													2	1												
Tetracyclines - Tetracycline	8	3	1											1	1						1								
Trimethoprim	2	3	1										2							1									
Cephalosporins - Ceftazidime	2	3	0									3																	
Polymyxins - Colistin	16	3	0												3														
Sulfonamides - Sulfamethoxazole	256	3	1																1		1					1			

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Other food - Monitoring (crocodile meat) - quantitative data [Dilution method]

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Other food - Monitoring (crocodile meat)	
	yes	
	3	
	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Other food (kangaroo meat) - quantitative data [Dilution method]

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

Salmonella spp.	Other food (kangaroo meat)																										
	yes																										
	2																										
	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	1024	2048	>4096
Aminoglycosides - Gentamicin	2	22	0										22														
Aminoglycosides - Kanamycin	8	2	0													2											
Aminoglycosides - Streptomycin	16	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	0.064	2	0						2																		
Penicillins - Ampicillin	8	2	0											2													
Quinolones - Nalidixic acid	16	2	0													2											
Tetracyclines - Tetracycline	8	2	0												2												
Trimethoprim	2	2	0										2														
Cephalosporins - Ceftazidime	2	2	0									2															
Polymyxins - Colistin	16	2	0												2												
Sulfonamides - Sulfamethoxazole	256	2	0														1			1							

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Other food (kangaroo meat) - quantitative data [Dilution method]

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Other food (kangaroo meat)	
	yes	
	2	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Meat from pig - Monitoring - quantitative data [Dilution method]

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

Salmonella spp.	Meat from pig - Monitoring																										
	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	1024	2048	>4096	
Antimicrobials:																											
Aminoglycosides - Gentamicin	2	9	0										5	4													
Aminoglycosides - Kanamycin	8	9	0													9											
Aminoglycosides - Streptomycin	16	9	7															2	2		1	4					
Amphenicols - Chloramphenicol	16	9	1														2	6		1							
Amphenicols - Florfenicol	16	9	1														7	1		1							
Cephalosporins - Cefotaxime	0.5	9	0							4	4	1															
Fluoroquinolones - Ciprofloxacin	0.064	9	1				1		7			1															
Penicillins - Ampicillin	8	9	4										2	3					4								
Quinolones - Nalidixic acid	16	9	1													8				1							
Tetracyclines - Tetracycline	8	9	5											3		1				5							
Trimethoprim	2	9	2										7						2								
Cephalosporins - Ceftazidime	2	9	0									5	3	1													
Polymyxins - Colistin	16	9	0												9												
Sulfonamides - Sulfamethoxazole	256	9	7																2						7		

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Meat from pig - Monitoring - quantitative data [Dilution method]

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from pig - Monitoring	
	yes	
	9	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Derby in Meat from pig - Monitoring - quantitative data [Dilution method]

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

S. Derby	Meat from pig - Monitoring																											
	yes																											
	3																											
	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	1024	2048	>4096		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	3	0										3															
Aminoglycosides - Kanamycin	8	3	0												3													
Aminoglycosides - Streptomycin	16	3	1														2	1										
Amphenicols - Chloramphenicol	16	3	0														3											
Amphenicols - Florfenicol	16	3	0													2	1											
Cephalosporins - Cefotaxime	0.5	3	0							2	1																	
Fluoroquinolones - Ciprofloxacin	0.064	3	0						3																			
Penicillins - Ampicillin	8	3	0										1	2														
Quinolones - Nalidixic acid	16	3	0												3													
Tetracyclines - Tetracycline	8	3	1											1		1				1								
Trimethoprim	2	3	1									2							1									
Cephalosporins - Ceftazidime	2	3	0									2	1															
Polymyxins - Colistin	16	3	0											3														
Sulfonamides - Sulfamethoxazole	256	3	2															1							2			

Table Antimicrobial susceptibility testing of S. Derby in Meat from pig - Monitoring - quantitative data [Dilution method]

S. Derby Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from pig - Monitoring	
	yes	
	3	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Footnote:

feces, pigs older than 3 months

Table Antimicrobial susceptibility testing of S. Typhimurium, monophasic in Meat from pig - Monitoring - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
S. Typhimurium, monophasic	Meat from pig - Monitoring																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	3																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	3	0											3													
Aminoglycosides - Kanamycin	8	3	0													3											
Aminoglycosides - Streptomycin	16	3	3																			3					
Amphenicols - Chloramphenicol	16	3	0														1	2									
Amphenicols - Florfenicol	16	3	0														3										
Cephalosporins - Cefotaxime	0.5	3	0							2	1																
Fluoroquinolones - Ciprofloxacin	0.064	3	0						3																		
Penicillins - Ampicillin	8	3	3																	3							
Quinolones - Nalidixic acid	16	3	0													3											
Tetracyclines - Tetracycline	8	3	3																		3						
Trimethoprim	2	3	0										3														
Cephalosporins - Ceftazidime	2	3	0									3															
Polymyxins - Colistin	16	3	0												3												
Sulfonamides - Sulfamethoxazole	256	3	3																						3		

Table Antimicrobial susceptibility testing of *S. Typhimurium*, monophasic in Meat from pig - Monitoring - quantitative data [Dilution method]

S. Typhimurium, monophasic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from pig - Monitoring	
	yes	
	3	
	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Meat from turkey - Monitoring - quantitative data [Dilution method]

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

Salmonella spp.	Meat from turkey - Monitoring																										
	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	1024	2048	>4096	
Antimicrobials:																											
Aminoglycosides - Gentamicin	2	22	2								1	14	5					1	1								
Aminoglycosides - Kanamycin	8	22	0												20	2											
Aminoglycosides - Streptomycin	16	22	15													2	5	2	4	7	2						
Amphenicols - Chloramphenicol	16	22	3												4	10	5	1		2							
Amphenicols - Florfenicol	16	22	2												9	9	2		1	1							
Cephalosporins - Cefotaxime	0.5	22	5						9	5	2	1				5											
Fluoroquinolones - Ciprofloxacin	0.064	22	19				1		2		2	7	8	2													
Penicillins - Ampicillin	8	22	7										10	3	2				7								
Quinolones - Nalidixic acid	16	22	18												3		1	6	1	11							
Tetracyclines - Tetracycline	8	22	11										2	2	6	1		1	6	4							
Trimethoprim	2	22	1									21							1								
Cephalosporins - Ceftazidime	2	22	3								12	4	1	2	1	1		1									
Polymyxins - Colistin	16	22	0											21		1											
Sulfonamides - Sulfamethoxazole	256	22	5															5	8	4				5			

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Meat from turkey - Monitoring - quantitative data [Dilution method]

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from turkey - Monitoring	
	yes	
	22	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Hadar in Meat from turkey - Monitoring - quantitative data [Dilution method]

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

S. Hadar	Meat from turkey - Monitoring																										
	yes																										
	9																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	9	1										4	4						1							
Aminoglycosides - Kanamycin	8	9	0													7	2										
Aminoglycosides - Streptomycin	16	9	9																	2	6	1					
Amphenicols - Chloramphenicol	16	9	0													4	5										
Amphenicols - Florfenicol	16	9	0													8	1										
Cephalosporins - Cefotaxime	0.5	9	0							8	1																
Fluoroquinolones - Ciprofloxacin	0.064	9	9								2	7															
Penicillins - Ampicillin	8	9	0											9													
Quinolones - Nalidixic acid	16	9	9																	1	8						
Tetracyclines - Tetracycline	8	9	9																	6	3						
Trimethoprim	2	9	0										9														
Cephalosporins - Ceftazidime	2	9	0									9															
Polymyxins - Colistin	16	9	0												9												
Sulfonamides - Sulfamethoxazole	256	9	1																4	4					1		

Table Antimicrobial susceptibility testing of *S. Hadar* in Meat from turkey - Monitoring - quantitative data [Dilution method]

S. Hadar Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from turkey - Monitoring	
	yes	
	9	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Anatum in Meat from turkey - Monitoring - quantitative data [Dilution method]

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

S. Anatum	Meat from turkey - Monitoring																											
	yes																											
	4																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	4	0									1	3															
Aminoglycosides - Kanamycin	8	4	0													4												
Aminoglycosides - Streptomycin	16	4	2															2		1		1						
Amphenicols - Chloramphenicol	16	4	1														2	1			1							
Amphenicols - Florfenicol	16	4	1														3				1							
Cephalosporins - Cefotaxime	0.5	4	3									1					3											
Fluoroquinolones - Ciprofloxacin	0.064	4	3						1				3															
Penicillins - Ampicillin	8	4	3													1				3								
Quinolones - Nalidixic acid	16	4	3																3									
Tetracyclines - Tetracycline	8	4	1													3					1							
Trimethoprim	2	4	1										3							1								
Cephalosporins - Ceftazidime	2	4	1										1		2	1												
Polymyxins - Colistin	16	4	0												3		1											
Sulfonamides - Sulfamethoxazole	256	4	1																1	2						1		

Table Antimicrobial susceptibility testing of *S. Anatum* in Meat from turkey - Monitoring - quantitative data [Dilution method]

S. Anatum Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from turkey - Monitoring	
	yes	
	4	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Agona in Meat from turkey - Monitoring - quantitative data [Dilution method]

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

S. Agona	Meat from turkey - Monitoring																										
	yes																										
	2																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	2	0										1	1													
Aminoglycosides - Kanamycin	8	2	0													2											
Aminoglycosides - Streptomycin	16	2	1															1	1								
Amphenicols - Chloramphenicol	16	2	1															1	1								
Amphenicols - Florfenicol	16	2	0															2									
Cephalosporins - Cefotaxime	0.5	2	1									1					1										
Fluoroquinolones - Ciprofloxacin	0.064	2	2											2													
Penicillins - Ampicillin	8	2	1													1				1							
Quinolones - Nalidixic acid	16	2	2																		2						
Tetracyclines - Tetracycline	8	2	0													1	1										
Trimethoprim	2	2	0									2															
Cephalosporins - Ceftazidime	2	2	1											1			1										
Polymyxins - Colistin	16	2	0												2												
Sulfonamides - Sulfamethoxazole	256	2	0																	1	1						

Table Antimicrobial susceptibility testing of *S. Agona* in Meat from turkey - Monitoring - quantitative data [Dilution method]

S. Agona Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from turkey - Monitoring	
	yes	
	2	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Brandenburg in Meat from turkey - Monitoring - quantitative data [Dilution method]

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

S. Brandenburg Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory			Meat from turkey - Monitoring																									
			yes																									
			2																									
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	2	1										1						1									
Aminoglycosides - Kanamycin	8	2	0													2												
Aminoglycosides - Streptomycin	16	2	1															1			1							
Amphenicols - Chloramphenicol	16	2	0														2											
Amphenicols - Florfenicol	16	2	0														2											
Cephalosporins - Cefotaxime	0.5	2	0								1		1															
Fluoroquinolones - Ciprofloxacin	0.064	2	2										2															
Penicillins - Ampicillin	8	2	1												1					1								
Quinolones - Nalidixic acid	16	2	1															1	1									
Tetracyclines - Tetracycline	8	2	0											2														
Trimethoprim	2	2	0										2															
Cephalosporins - Ceftazidime	2	2	0									1	1															
Polymyxins - Colistin	16	2	0												2													
Sulfonamides - Sulfamethoxazole	256	2	1																	1						1		

Table Antimicrobial susceptibility testing of S. Brandenburg in Meat from turkey - Monitoring - quantitative data [Dilution method]

S. Brandenburg	Meat from turkey - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
	Number of isolates available in the laboratory	
Antimicrobials:	2	
	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of *S. Heidelberg* in Meat from broilers (*Gallus gallus*) - Monitoring (import) - quantitative data [Dilution method]

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

S. Heidelberg Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Meat from broilers (Gallus gallus) - Monitoring (import)																											
		yes																											
		78																											
		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	1024	2048	>4096		
Antimicrobials:	2	78	4								7	48	16	3		2		2											
Aminoglycosides - Gentamicin	8	78	1												72	5					1								
Aminoglycosides - Kanamycin	16	78	23													9	46	19	2		2								
Aminoglycosides - Streptomycin	16	78	1													69	8		1										
Amphenicols - Chloramphenicol	16	78	0											1	54	22	1												
Amphenicols - Florfenicol	0.5	78	66						4	8					2	64													
Cephalosporins - Cefotaxime	64	78	0						1		26	44	7																
Fluoroquinolones - Ciprofloxacin	8	78	66										4	6	2				66										
Penicillins - Ampicillin	16	78	77												1					77									
Quinolones - Nalidixic acid	8	78	78																	78									
Tetracyclines - Tetracycline	2	78	1									74	2	1					1										
Trimethoprim	2	78	65								10	2		1		8	35	22											
Cephalosporins - Ceftazidime	16	78	0											77		1													
Polymyxins - Colistin	256	78	78																						78				
Sulfonamides - Sulfamethoxazole																													

Table Antimicrobial susceptibility testing of *S. Heidelberg* in Meat from broilers (*Gallus gallus*) - Monitoring (import) - quantitative data [Dilution method]

S. Heidelberg	Meat from broilers (<i>Gallus gallus</i>) - Monitoring (import)	
	Isolates out of a monitoring program (yes/no)	
	yes	
Antimicrobials:	Number of isolates available in the laboratory	
	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	6
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Paratyphi B in Meat from broilers (Gallus gallus) - Monitoring (S. Paratyphi B var Java) - quantitative data [Dilution method]

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

S. Paratyphi B Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory			Meat from broilers (Gallus gallus) - Monitoring (S. Paratyphi B var Java)																									
			yes																									
			23																									
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	23	0									17	6															
Aminoglycosides - Kanamycin	8	23	8													15						8						
Aminoglycosides - Streptomycin	16	23	22															1	10	2	2	8						
Amphenicols - Chloramphenicol	16	23	1														16	6			1							
Amphenicols - Florfenicol	16	23	1												1	7	11	3	1									
Cephalosporins - Cefotaxime	0.5	23	1								14	8					1											
Fluoroquinolones - Ciprofloxacin	0.064	23	11				2		10		2	4	3	2														
Penicillins - Ampicillin	8	23	7											8	5	2	1			7								
Quinolones - Nalidixic acid	16	23	9													11	1	2			9							
Tetracyclines - Tetracycline	8	23	2												15	5	1				2							
Trimethoprim	2	23	22										1							22								
Cephalosporins - Ceftazidime	2	23	1										21	1					1									
Polymyxins - Colistin	16	23	0												22		1											
Sulfonamides - Sulfamethoxazole	256	23	14																4	5				1	13			

Table Antimicrobial susceptibility testing of *S. Paratyphi B* in Meat from broilers (*Gallus gallus*) - Monitoring (*S. Paratyphi B* var Java) - quantitative data [Dilution method]

S. Paratyphi B Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from broilers (<i>Gallus gallus</i>) - Monitoring (<i>S. Paratyphi B</i> var Java)	
	yes	
	23	
	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of *S. Infantis* in Meat from broilers (*Gallus gallus*) - Monitoring - quantitative data [Dilution method]

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

S. Infantis	Meat from broilers (Gallus gallus) - Monitoring																											
	yes																											
	10																											
	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	1024	2048	>4096		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	10	0								2	6	2															
Aminoglycosides - Kanamycin	8	10	0												10													
Aminoglycosides - Streptomycin	16	10	8														2	3	2	2	1							
Amphenicols - Chloramphenicol	16	10	1													2	7	1										
Amphenicols - Florfenicol	16	10	0													2	8											
Cephalosporins - Cefotaxime	0.5	10	0							2	7	1																
Fluoroquinolones - Ciprofloxacin	0.064	10	8				1		1			1	6		1													
Penicillins - Ampicillin	8	10	0										2	4	4													
Quinolones - Nalidixic acid	16	10	8												2					8								
Tetracyclines - Tetracycline	8	10	6											1	2	1				6								
Trimethoprim	2	10	3									7							3									
Cephalosporins - Ceftazidime	2	10	0									7	3															
Polymyxins - Colistin	16	10	0											9	1													
Sulfonamides - Sulfamethoxazole	256	10	6																2	2					6			

Table Antimicrobial susceptibility testing of *S. Infantis* in Meat from broilers (*Gallus gallus*) - Monitoring - quantitative data [Dilution method]

S. Infantis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - Monitoring	
	yes	
	10	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis in Meat from broilers (Gallus gallus) - Monitoring - quantitative data [Dilution method]

S. Enteritidis		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Meat from broilers (Gallus gallus) - Monitoring																											
		yes																											
		8																											
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	1024	2048	>4096			
Aminoglycosides - Gentamicin	2	8	0									2	6																
Aminoglycosides - Kanamycin	8	8	0													8													
Aminoglycosides - Streptomycin	16	8	0												1	5	2												
Amphenicols - Chloramphenicol	16	8	0														7	1											
Amphenicols - Florfenicol	16	8	0													3	5												
Cephalosporins - Cefotaxime	0.5	8	0							3	4	1																	
Fluoroquinolones - Ciprofloxacin	0.064	8	5						2	1		3	1	1															
Penicillins - Ampicillin	8	8	2												5	1				2									
Quinolones - Nalidixic acid	16	8	5													3					5								
Tetracyclines - Tetracycline	8	8	0												4	4													
Trimethoprim	2	8	0										8																
Cephalosporins - Ceftazidime	2	8	0									5	3																
Polymyxins - Colistin	16	8	0												5	3													
Sulfonamides - Sulfamethoxazole	256	8	0																1	5	2								

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Meat from broilers (*Gallus gallus*) - Monitoring - 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>) - Monitoring	
	yes	
	8	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

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

S. Agona		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Meat from broilers (Gallus gallus) - Monitoring																											
		yes																											
		5																											
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	1024	2048	>4096			
Aminoglycosides - Gentamicin	2	5	0										3	2															
Aminoglycosides - Kanamycin	8	5	0													5													
Aminoglycosides - Streptomycin	16	5	1														1	3				1							
Amphenicols - Chloramphenicol	16	5	3															2	3										
Amphenicols - Florfenicol	16	5	1														1	3	1										
Cephalosporins - Cefotaxime	0.5	5	2							1	2						2												
Fluoroquinolones - Ciprofloxacin	0.064	5	4						1				2	2															
Penicillins - Ampicillin	8	5	3													2				3									
Quinolones - Nalidixic acid	16	5	4													1			1		3								
Tetracyclines - Tetracycline	8	5	1													1	3				1								
Trimethoprim	2	5	1										4							1									
Cephalosporins - Ceftazidime	2	5	2										3				2												
Polymyxins - Colistin	16	5	0												5														
Sulfonamides - Sulfamethoxazole	256	5	1																	1	2	1			1				

Table Antimicrobial susceptibility testing of *S. Agona* in Meat from broilers (*Gallus gallus*) - Monitoring - quantitative data [Dilution method]

S. Agona Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - Monitoring	
	yes	
	5	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Minnesota in Meat from broilers (Gallus gallus) - Monitoring - quantitative data [Dilution method]

S. Minnesota Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																										
		Meat from broilers (Gallus gallus) - Monitoring																										
		yes																										
		5																										
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	5	1									2	2						1									
Aminoglycosides - Kanamycin	16	5	4													1						4						
Aminoglycosides - Streptomycin	16	5	1													1	3				1							
Amphenicols - Chloramphenicol	16	5	0														5											
Amphenicols - Florfenicol	16	5	0													4	1											
Cephalosporins - Cefotaxime	0.5	5	4								1						4											
Fluoroquinolones - Ciprofloxacin	0.064	5	2						3				2															
Penicillins - Ampicillin	8	5	4											1						4								
Quinolones - Nalidixic acid	16	5	1													3		1	1									
Tetracyclines - Tetracycline	8	5	5																		5							
Trimethoprim	2	5	0										5															
Cephalosporins - Ceftazidime	2	5	4										1					1	3									
Polymyxins - Colistin	16	5	0												5													
Sulfonamides - Sulfamethoxazole	256	5	5																						5			

Table Antimicrobial susceptibility testing of *S. Minnesota* in Meat from broilers (*Gallus gallus*) - Monitoring - quantitative data [Dilution method]

S. Minnesota Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - Monitoring	
	yes	
	5	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Salmonella spp. in Meat from broilers (Gallus gallus) - Monitoring - quantitative data [Dilution method]

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

Salmonella spp.	Meat from broilers (Gallus gallus) - Monitoring																											
	yes																											
	8																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	8	0									1	2	4	1													
Aminoglycosides - Kanamycin	8	8	0													7	1											
Aminoglycosides - Streptomycin	16	8	1														1	6	1									
Amphenicols - Chloramphenicol	16	8	0														5	3										
Amphenicols - Florfenicol	16	8	0													2	6											
Cephalosporins - Cefotaxime	0.5	8	0							4	2	1	1															
Fluoroquinolones - Ciprofloxacin	0.064	8	1						6	1		1																
Penicillins - Ampicillin	8	8	0											4	3	1												
Quinolones - Nalidixic acid	16	8	1													4	3				1							
Tetracyclines - Tetracycline	8	8	1												6	1					1							
Trimethoprim	2	8	0										7	1														
Cephalosporins - Ceftazidime	2	8	0									4	4															
Polymyxins - Colistin	16	8	0												8													
Sulfonamides - Sulfamethoxazole	256	7	0																1	4	1	1						

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Meat from broilers (*Gallus gallus*) - Monitoring - 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>) - Monitoring	
	yes	
	8	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Salmonella spp. in Spices and herbs - fresh - Monitoring - quantitative data [Dilution method]

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

Salmonella spp.	Spices and herbs - fresh - Monitoring																											
	Isolates out of a monitoring program (yes/no)																											
	yes																											
	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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	6	0										6															
Aminoglycosides - Kanamycin	8	6	0													5	1											
Aminoglycosides - Streptomycin	16	6	1														2	3	1									
Amphenicols - Chloramphenicol	16	6	0														6											
Amphenicols - Florfenicol	16	6	0													5	1											
Cephalosporins - Cefotaxime	0.5	6	0							2	3	1																
Fluoroquinolones - Ciprofloxacin	0.064	6	1						5				1															
Penicillins - Ampicillin	8	6	0											5	1													
Quinolones - Nalidixic acid	16	6	0													5	1											
Tetracyclines - Tetracycline	8	6	1												5						1							
Trimethoprim	2	6	1										4	1						1								
Cephalosporins - Ceftazidime	2	6	0									4	2															
Polymyxins - Colistin	16	6	0												6													
Sulfonamides - Sulfamethoxazole	256	6	1																1	4					1			

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Spices and herbs - fresh - Monitoring - quantitative data [Dilution method]

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Spices and herbs - fresh - Monitoring	
	yes	
	6	
	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Salmonella spp. in Other food - Monitoring - quantitative data [Dilution method]

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

Salmonella spp.	Other food - Monitoring																											
	yes																											
	5																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	5	0										2	3														
Aminoglycosides - Kanamycin	8	5	0													5												
Aminoglycosides - Streptomycin	16	5	1															4				1						
Amphenicols - Chloramphenicol	16	5	0														4	1										
Amphenicols - Florfenicol	16	5	0													2	3											
Cephalosporins - Cefotaxime	0.5	5	0							1	4																	
Fluoroquinolones - Ciprofloxacin	0.064	5	0				2		3																			
Penicillins - Ampicillin	8	5	0											5														
Quinolones - Nalidixic acid	16	5	0													5												
Tetracyclines - Tetracycline	8	5	0												3	2												
Trimethoprim	2	5	0										4	1														
Cephalosporins - Ceftazidime	2	5	0									2	3															
Polymyxins - Colistin	16	5	0												5													
Sulfonamides - Sulfamethoxazole	256	5	0																1	1	3							

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Other food - Monitoring - quantitative data [Dilution method]

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Other food - Monitoring	
	yes	
	5	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of S. Derby in Pigs - Monitoring - quantitative data [Dilution method]

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

S. Derby	Pigs - Monitoring																										
	yes																										
	27																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	27	0										19	8													
Aminoglycosides - Kanamycin	8	27	0													27											
Aminoglycosides - Streptomycin	16	27	9														3	15	5			4					
Amphenicols - Chloramphenicol	16	27	0														3	24									
Amphenicols - Florfenicol	16	27	0													1	23	3									
Cephalosporins - Cefotaxime	0.5	27	0							3	20	4															
Fluoroquinolones - Ciprofloxacin	0.064	27	0				7		19	1																	
Penicillins - Ampicillin	8	27	2											15	10					2							
Quinolones - Nalidixic acid	16	27	0													26	1										
Tetracyclines - Tetracycline	8	27	7												11	7	2				7						
Trimethoprim	2	27	6										19	1	1					6							
Cephalosporins - Ceftazidime	2	27	0										26	1													
Polymyxins - Colistin		27	0												27												
Sulfonamides - Sulfamethoxazole	256	27	8																	8	9	2				8	

Table Antimicrobial susceptibility testing of *S. Derby* in Pigs - Monitoring - quantitative data [Dilution method]

S. Derby Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - Monitoring	
	yes	
	27	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

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

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

S. Typhimurium	Pigs - Monitoring																										
	yes																										
	26																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	26	0										22	4													
Aminoglycosides - Kanamycin	8	26	0													24	2										
Aminoglycosides - Streptomycin	16	26	9														3	14		1	2	6					
Amphenicols - Chloramphenicol	16	26	3													1	22				3						
Amphenicols - Florfenicol	16	26	3													13	10			1	2						
Cephalosporins - Cefotaxime	0.5	26	0							13	12	1															
Fluoroquinolones - Ciprofloxacin	0.064	26	1				4		21			1															
Penicillins - Ampicillin	8	26	15											6	5				1	14							
Quinolones - Nalidixic acid	16	26	1													23	2				1						
Tetracyclines - Tetracycline	8	26	14												12				1	1	12						
Trimethoprim	2	26	5										21							5							
Cephalosporins - Ceftazidime	2	26	0									15	11														
Sulfonamides - Sulfamethoxazole	256	26	13														12		1						13		

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

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - Monitoring	
	yes	
	26	
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 - Ceftazidime	0.25	16
Sulfonamides - Sulfamethoxazole	8	1024

Footnote:

Because of small numbers, data on isolates from slaughter pigs (n=6), and pigs 'unspecified source' (n=20) are merged.

Table Antimicrobial susceptibility testing of S. Typhimurium, monophasic in Pigs - Monitoring - quantitative data [Dilution method]

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

S. Typhimurium, monophasic	Pigs - Monitoring																										
	yes																										
	25																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	25	0										22	3													
Aminoglycosides - Kanamycin	8	25	0													24	1										
Aminoglycosides - Streptomycin	16	25	20														2	3				20					
Amphenicols - Chloramphenicol	16	25	2														21	2	1		1						
Amphenicols - Florfenicol	16	25	2													10	13		1		1						
Cephalosporins - Cefotaxime	0.5	25	0							7	17		1														
Fluoroquinolones - Ciprofloxacin	0.064	25	1				8	15	1		1																
Penicillins - Ampicillin	8	25	20											5						20							
Quinolones - Nalidixic acid	16	25	1													21	3				1						
Tetracyclines - Tetracycline	8	25	23												2						23						
Trimethoprim	2	25	2										23							2							
Cephalosporins - Ceftazidime	2	25	0									15	10														
Sulfonamides - Sulfamethoxazole	256	25	20														4	1								20	

Table Antimicrobial susceptibility testing of *S. Typhimurium*, monophasic in Pigs - Monitoring - quantitative data [Dilution method]

S. Typhimurium, monophasic	Pigs - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
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 - Ceftazidime	0.25	16
Sulfonamides - Sulfamethoxazole	8	1024

Footnote:

Because of small numbers, data on isolates from slaughter pigs (n=3), and pigs 'unspecified source' (n=22) are merged.

Table Antimicrobial susceptibility testing of *S. Goldcoast* in Pigs - Monitoring - quantitative data [Dilution method]

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

S. Goldcoast	Pigs - Monitoring																										
	yes																										
	3																										
	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	1024	2048	>4096
Aminoglycosides - Gentamicin	2	3	0										2	1													
Aminoglycosides - Kanamycin	16	3	0													3											
Aminoglycosides - Streptomycin	16	3	1														1	1				1					
Amphenicols - Chloramphenicol	16	3	0														1	2									
Amphenicols - Florfenicol	16	3	0													1	2										
Cephalosporins - Cefotaxime	0.5	3	0								3																
Fluoroquinolones - Ciprofloxacin	0.064	3	0						3																		
Penicillins - Ampicillin	8	3	1											2						1							
Quinolones - Nalidixic acid	16	3	0													3											
Tetracyclines - Tetracycline	8	3	1												1	1					1						
Trimethoprim	2	3	3																	3							
Cephalosporins - Ceftazidime	2	3	0										2	1													
Polymyxins - Colistin		3	0												3												
Sulfonamides - Sulfamethoxazole	256	3	3																							3	

Table Antimicrobial susceptibility testing of *S. Goldcoast* in Pigs - Monitoring - quantitative data [Dilution method]

S. Goldcoast Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - Monitoring	
	yes	
	3	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Salmonella spp. in Pigs - fattening pigs - Monitoring - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
Salmonella spp.	Pigs - fattening pigs - Monitoring																										
	yes																										
	71																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	71	0										60	11													
Aminoglycosides - Kanamycin	8	71	1													67	3					1					
Aminoglycosides - Streptomycin	16	71	35														11	25	2	1	3	29					
Amphenicols - Chloramphenicol	16	71	7													1	57	6	1	1	5						
Amphenicols - Florfenicol	16	71	6													25	39	1	1	1	4						
Cephalosporins - Cefotaxime	0.5	71	0							22	44	4	1														
Fluoroquinolones - Ciprofloxacin	0.064	71	2				17		50	2		2															
Penicillins - Ampicillin	8	71	38											17	15	1			1	37							
Quinolones - Nalidixic acid	16	71	2													62	7				2						
Tetracyclines - Tetracycline	8	71	43											1	27				1	1	41						
Trimethoprim	2	71	13										58							13							
Cephalosporins - Ceftazidime	2	71	0									33	36	1	1												
Sulfonamides - Sulfamethoxazole	256	71	40														29	1	1						40		

Table Antimicrobial susceptibility testing of *Salmonella* spp. in Pigs - fattening pigs - Monitoring - quantitative data [Dilution method]

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - fattening pigs - Monitoring	
	yes	
	71	
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 - Ceftazidime	0.25	16
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Salmonella spp. in Gallus gallus (fowl) - broilers - Monitoring - quantitative data [Dilution method]

Salmonella spp.	Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
	Gallus gallus (fowl) - broilers - Monitoring																											
	Isolates out of a monitoring program (yes/no)																											
	yes																											
Antimicrobials:	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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	230	7									52	138	31	2		1	2	3	1								
Aminoglycosides - Kanamycin	8	230	24													203	3	1		1		22						
Aminoglycosides - Streptomycin	16	230	112												1	23	29	65	54	20	6	32						
Amphenicols - Chloramphenicol	16	230	11												1	18	141	59	6		5							
Amphenicols - Florfenicol	16	230	5												2	105	87	31	2	1	2							
Cephalosporins - Cefotaxime	0.5	230	38							37	96	49	10			1	37											
Fluoroquinolones - Ciprofloxacin	0.064	230	111				28		88	3	4	42	43	19	3													
Penicillins - Ampicillin	8	230	74										1	67	55	30	3			74								
Quinolones - Nalidixic acid	16	230	108													106	12	4	6		102							
Tetracyclines - Tetracycline	8	230	87											8	114	21				3	84							
Trimethoprim	2	230	74										153	3						74								
Cephalosporins - Ceftazidime	2	230	38									75	101	16		2	7	8	21									
Sulfonamides - Sulfamethoxazole	256	230	110														62	55	3						2	108		

Table Antimicrobial susceptibility testing of *Salmonella* spp. in *Gallus gallus* (fowl) - broilers - Monitoring - quantitative data [Dilution method]

Salmonella spp.	Gallus gallus (fowl) - broilers - Monitoring	
	yes	
	230	
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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of Salmonella spp. in Gallus gallus (fowl) - laying hens - Monitoring - quantitative data [Dilution method]

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

Salmonella spp.	Gallus gallus (fowl) - laying hens - Monitoring																											
	yes																											
	35																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	35	0									6	26	3														
Aminoglycosides - Kanamycin	8	35	0													35												
Aminoglycosides - Streptomycin	16	35	6												2	8	14	5	1		2	3						
Amphenicols - Chloramphenicol	16	35	1												1	3	26	4			1							
Amphenicols - Florfenicol	16	35	1												1	13	20		1									
Cephalosporins - Cefotaxime	0.5	35	3							16	13	3					3											
Fluoroquinolones - Ciprofloxacin	0.064	35	0				9	26																				
Penicillins - Ampicillin	8	35	7											23	5					7								
Quinolones - Nalidixic acid	16	35	0													32	3											
Tetracyclines - Tetracycline	8	35	4											2	26	3				1	3							
Trimethoprim	2	35	0										34	1														
Cephalosporins - Ceftazidime	2	35	3									20	12					3										
Sulfonamides - Sulfamethoxazole	256	35	5														16	10	4						5			

Table Antimicrobial susceptibility testing of *Salmonella* spp. in *Gallus gallus* (fowl) - laying hens - Monitoring - quantitative data [Dilution method]

Salmonella spp.	Gallus gallus (fowl) - laying hens - Monitoring	
	yes	
	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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of Salmonella spp. in Cattle (bovine animals) - Monitoring - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
Salmonella spp.	Cattle (bovine animals) - Monitoring																										
	Isolates out of a monitoring program (yes/no) yes																										
	Number of isolates available in the laboratory 51																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	51	1									13	32	5						1							
Aminoglycosides - Kanamycin	8	51	1													49	1				1						
Aminoglycosides - Streptomycin	16	51	24													1	10	16	2	1	1	20					
Amphenicols - Chloramphenicol	16	51	3												1	7	38	2	1		2						
Amphenicols - Florfenicol	16	51	3												1	37	9	1	1	1	1						
Cephalosporins - Cefotaxime	0.5	51	0							28	19	3	1														
Fluoroquinolones - Ciprofloxacin	0.064	51	1				24		24	2	1																
Penicillins - Ampicillin	8	51	20										2	23	6					20							
Quinolones - Nalidixic acid	16	51	0													45	3	3									
Tetracyclines - Tetracycline	8	51	25											5	21					1	24						
Trimethoprim	2	51	8										43							8							
Cephalosporins - Ceftazidime	2	51	0									40	10	1													
Sulfonamides - Sulfamethoxazole	256	51	25														10	9	6	1					25		

Table Antimicrobial susceptibility testing of Salmonella spp. in Cattle (bovine animals) - Monitoring - quantitative data [Dilution method]

Salmonella spp.	Cattle (bovine animals) - Monitoring	
Isolates out of a monitoring program (yes/no)	yes	
Number of isolates available in the laboratory	51	
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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Footnote:

Because of small numbers, data on isolates of dairy cows (n=22), veal calves(n=9) and cattle 'unspecified source'(n=20) were merged together.

Table Antimicrobial susceptibility testing of Other serovars in Gallus gallus (fowl) - broilers - Monitoring - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
Other serovars	Gallus gallus (fowl) - broilers - Monitoring																										
	Isolates out of a monitoring program (yes/no) yes																										
	Number of isolates available in the laboratory 37																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	37	1									7	21	8					1								
Aminoglycosides - Kanamycin	8	37	0													36	1										
Aminoglycosides - Streptomycin	16	37	8													3	10	16	3		1	4					
Amphenicols - Chloramphenicol	16	37	2													3	18	14	1		1						
Amphenicols - Florfenicol	16	37	1													10	23	3			1						
Cephalosporins - Cefotaxime	0.5	37	0							10	23	3	1														
Fluoroquinolones - Ciprofloxacin	0.064	37	3				11		21	2		1		2													
Penicillins - Ampicillin	8	37	5											21	10	1				5							
Quinolones - Nalidixic acid	16	37	2													32	1	2			2						
Tetracyclines - Tetracycline	8	37	6											2	23	6					6						
Trimethoprim	2	37	2										33	2						2							
Cephalosporins - Ceftazidime	2	37	0									16	20	1													
Sulfonamides - Sulfamethoxazole	256	37	6														19	12							6		

Table Antimicrobial susceptibility testing of Other serovars in Gallus gallus (fowl) - broilers - Monitoring - quantitative data [Dilution method]

Other serovars	Gallus gallus (fowl) - broilers - Monitoring	
	yes	
	37	
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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of Other serovars in Gallus gallus (fowl) - laying hens - Monitoring - quantitative data [Dilution method]

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

Other serovars	Gallus gallus (fowl) - laying hens - Monitoring																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	23																											
	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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	23	0									2	18	3														
Aminoglycosides - Kanamycin	8	23	0													23												
Aminoglycosides - Streptomycin	16	23	6														12	5	1		2	3						
Amphenicols - Chloramphenicol	16	23	1												1	1	16	4			1							
Amphenicols - Florfenicol	16	23	1												1	5	16		1									
Cephalosporins - Cefotaxime	0.5	23	3							8	9	3					3											
Fluoroquinolones - Ciprofloxacin	0.064	23	0				8		15																			
Penicillins - Ampicillin	8	23	6											15	2					6								
Quinolones - Nalidixic acid	16	23	0													23												
Tetracyclines - Tetracycline	8	23	4											2	14	3				1	3							
Trimethoprim	2	23	0										23															
Cephalosporins - Ceftazidime	2	23	3									9	11					3										
Sulfonamides - Sulfamethoxazole	256	23	5														12	6								5		

Table Antimicrobial susceptibility testing of Other serovars in Gallus gallus (fowl) - laying hens - Monitoring - quantitative data [Dilution method]

Other serovars	Gallus gallus (fowl) - laying hens - Monitoring	
	yes	
	23	
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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of Other serovars in Cattle (bovine animals) - Monitoring - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
Other serovars	Cattle (bovine animals) - Monitoring																										
	yes																										
	9																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	9	0									1	6	2													
Aminoglycosides - Kanamycin	8	9	0													9											
Aminoglycosides - Streptomycin	16	9	0													1	7	1									
Amphenicols - Chloramphenicol	16	9	0													1	8										
Amphenicols - Florfenicol	16	9	0													8	1										
Cephalosporins - Cefotaxime	0.5	9	0							5	4																
Fluoroquinolones - Ciprofloxacin	0.064	9	0				4		5																		
Penicillins - Ampicillin	8	9	0											7	2												
Quinolones - Nalidixic acid	16	9	0													8	1										
Tetracyclines - Tetracycline	8	9	0											2	7												
Trimethoprim	2	9	0										9														
Cephalosporins - Ceftazidime	2	9	0									8	1														
Sulfonamides - Sulfamethoxazole	256	9	0														1	5	3								

Table Antimicrobial susceptibility testing of Other serovars in Cattle (bovine animals) - Monitoring - quantitative data [Dilution method]

Other serovars	Cattle (bovine animals) - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
	Number of isolates available in the laboratory	
Antimicrobials:	9	
	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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Footnote:

Because of small numbers. Data on isolates from dairy cattle(n=3), veal calves(n=1) and cattle 'unspecified sources'(n=5) are combined.

Table Antimicrobial susceptibility testing of Other serovars in Pigs - fattening pigs - Monitoring - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
Other serovars	Pigs - fattening pigs - Monitoring																										
	yes																										
	10																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	10	0										8	2													
Aminoglycosides - Kanamycin	8	10	1													9						1					
Aminoglycosides - Streptomycin	16	10	4														5	1	1		1	2					
Amphenicols - Chloramphenicol	16	10	2														8			1	1						
Amphenicols - Florfenicol	16	10	1													2	7				1						
Cephalosporins - Cefotaxime	0.5	10	0							2	6	2															
Fluoroquinolones - Ciprofloxacin	0.064	10	0				2		8																		
Penicillins - Ampicillin	8	10	3											2	5					3							
Quinolones - Nalidixic acid	16	10	0													9	1										
Tetracyclines - Tetracycline	8	10	4												6						4						
Trimethoprim	2	10	6										4							6							
Cephalosporins - Ceftazidime	2	10	0									3	7														
Sulfonamides - Sulfamethoxazole	256	10	6														4									6	

Table Antimicrobial susceptibility testing of Other serovars in Pigs - fattening pigs - Monitoring - quantitative data [Dilution method]

Other serovars	Pigs - fattening pigs - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
	Number of isolates available in the laboratory	
Antimicrobials:	10	
	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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of S. Paratyphi B in Gallus gallus (fowl) - broilers - Monitoring (S. Paratyphi B var. Java) - quantitative data [Dilution method]

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

S. Paratyphi B Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory			Gallus gallus (fowl) - broilers - Monitoring (S. Paratyphi B var. Java)																											
			yes																											
			56																											
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	1024	2048	>4096				
Aminoglycosides - Gentamicin	2	56	2									29	24	1			1		1											
Aminoglycosides - Kanamycin	8	56	17													39				1		16								
Aminoglycosides - Streptomycin	16	56	56																31	6	4	15								
Amphenicols - Chloramphenicol	16	56	2													7	34	13			2									
Amphenicols - Florfenicol	16	56	0												1	33	17	5												
Cephalosporins - Cefotaxime	0.5	56	1							3	31	16	5				1													
Fluoroquinolones - Ciprofloxacin	0.064	56	29				2		24	1	2	17	5	3	2															
Penicillins - Ampicillin	8	56	17											17	13	6	3			17										
Quinolones - Nalidixic acid	16	56	27													26	2	1			27									
Tetracyclines - Tetracycline	8	56	8												42	6					8									
Trimethoprim	2	56	56																	56										
Cephalosporins - Ceftazidime	2	56	1									6	45	4					1											
Sulfonamides - Sulfamethoxazole	256	56	30														11	15						1	29					

Table Antimicrobial susceptibility testing of *S. Paratyphi B* in *Gallus gallus* (fowl) - broilers - Monitoring (*S. Paratyphi B* var. Java) - 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) - broilers - Monitoring (<i>S. Paratyphi B</i> var. Java)	
	yes	
	56	
	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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

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

S. Heidelberg Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Gallus gallus (fowl) - broilers - Monitoring																											
		yes																											
		37																											
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	1024	2048	>4096			
Aminoglycosides - Gentamicin	2	38	3									1	1	27	6			2		1									
Aminoglycosides - Kanamycin	8	37	2													33	2				2								
Aminoglycosides - Streptomycin	16	37	9														4	24	7	1	1								
Amphenicols - Chloramphenicol	16	37	1													2	30	4	1										
Amphenicols - Florfenicol	16	37	0													26	10	1											
Cephalosporins - Cefotaxime	0.5	37	30							3	3	1				1	29												
Fluoroquinolones - Ciprofloxacin	0.064	37	36				1					17	15	3	1														
Penicillins - Ampicillin	8	37	30											5	2					30									
Quinolones - Nalidixic acid	16	37	36													1					36								
Tetracyclines - Tetracycline	8	37	37																		37								
Trimethoprim	2	37	1										36							1									
Cephalosporins - Ceftazidime	2	37	30									7					7	8	15										
Sulfonamides - Sulfamethoxazole	256	37	37																					1	36				

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

S. Heidelberg	Gallus gallus (fowl) - broilers - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
Antimicrobials:	Number of isolates available in the laboratory	
	37	
	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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of S. Typhimurium in Cattle (bovine animals) - Monitoring - quantitative data [Dilution method]

S. Typhimurium		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Cattle (bovine animals) - Monitoring																											
		yes																											
		13																											
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	1024	2048	>4096			
Aminoglycosides - Gentamicin	2	13	0									2	9	2															
Aminoglycosides - Kanamycin	8	13	0													13													
Aminoglycosides - Streptomycin	16	13	7														2	4		1	1	5							
Amphenicols - Chloramphenicol	16	13	1													1	11				1								
Amphenicols - Florfenicol	16	13	1													11	1			1									
Cephalosporins - Cefotaxime	0.5	13	0							9	3	1																	
Fluoroquinolones - Ciprofloxacin	0.064	13	0				6		7																				
Penicillins - Ampicillin	8	13	4											7	2					4									
Quinolones - Nalidixic acid	16	13	0													13													
Tetracyclines - Tetracycline	8	13	9												4					1	8								
Trimethoprim	2	13	4										9							4									
Cephalosporins - Ceftazidime	2	13	0									10	2	1															
Sulfonamides - Sulfamethoxazole	256	13	10																2	1						10			

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Cattle (bovine animals) - Monitoring - quantitative data [Dilution method]

S. Typhimurium	Cattle (bovine animals) - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
	Number of isolates available in the laboratory	
Antimicrobials:	13	
	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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Footnote:

Because of small numbers, data on isolates from dairy cows (n=5), veal calves (n=2) and cattle 'unspecified source' (n=6) are merged.

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - mixed flocks/holdings - Monitoring - quantitative data [Dilution method]

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

S. Enteritidis	Gallus gallus (fowl) - mixed flocks/holdings - Monitoring																											
	yes																											
	36																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	36	0									10	26															
Aminoglycosides - Kanamycin	8	36	0													36												
Aminoglycosides - Streptomycin	16	36	2												3	26	5			1		1						
Amphenicols - Chloramphenicol	16	36	0												1	3	29	3										
Amphenicols - Florfenicol	16	36	0												1	21	14											
Cephalosporins - Cefotaxime	0.5	36	0							14	20	2																
Fluoroquinolones - Ciprofloxacin	0.064	36	9				3		24		1	5	1	2														
Penicillins - Ampicillin	8	36	3										1	11	17	4				3								
Quinolones - Nalidixic acid	16	36	9													20	7				9							
Tetracyclines - Tetracycline	8	36	1											4	30	1					1							
Trimethoprim	2	36	1										33	2						1								
Cephalosporins - Ceftazidime	2	36	0									30	5	1														
Sulfonamides - Sulfamethoxazole	256	36	1														8	20	7						1			

Table Antimicrobial susceptibility testing of *S. Enteritidis* in *Gallus gallus* (fowl) - mixed flocks/holdings - Monitoring - quantitative data [Dilution method]

S. Enteritidis	Gallus gallus (fowl) - mixed flocks/holdings - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
Antimicrobials:	Number of isolates available in the laboratory	
	36	
	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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of S. Typhimurium, monophasic in Cattle (bovine animals) - Monitoring - quantitative data [Dilution method]

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

S. Typhimurium, monophasic	Cattle (bovine animals) - Monitoring																											
	yes																											
	15																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	15	1										13	1						1								
Aminoglycosides - Kanamycin	8	15	1													13	1					1						
Aminoglycosides - Streptomycin	16	15	15																1			14						
Amphenicols - Chloramphenicol	16	15	2														12	1	1		1							
Amphenicols - Florfenicol	16	15	2													9	3	1	1		1							
Cephalosporins - Cefotaxime	0.5	15	0							6	6	2	1															
Fluoroquinolones - Ciprofloxacin	0.064	15	1				4		8	2	1																	
Penicillins - Ampicillin	8	15	14												1					14								
Quinolones - Nalidixic acid	16	15	0													12		3										
Tetracyclines - Tetracycline	8	15	14												1						14							
Trimethoprim	2	15	3										12							3								
Cephalosporins - Ceftazidime	2	15	0									9	6															
Sulfonamides - Sulfamethoxazole	256	15	14															1								14		

Table Antimicrobial susceptibility testing of S. Typhimurium, monophasic in Cattle (bovine animals) - Monitoring - quantitative data [Dilution method]

S. Typhimurium, monophasic	Cattle (bovine animals) - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
	Number of isolates available in the laboratory	
Antimicrobials:	15	
	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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Footnote:

Because of small numbers, data on isolates from dairy cows (n=8), veal calves (n=4) and cattle 'unspecified source' (n=3) are merged.

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

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

S. Typhimurium	Gallus gallus (fowl) - broilers																											
	yes																											
	20																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	20	0									2	6	11	1													
Aminoglycosides - Kanamycin	8	20	0													20												
Aminoglycosides - Streptomycin	16	20	10														2	8	2	1		7						
Amphenicols - Chloramphenicol	16	20	2													1	17				2							
Amphenicols - Florfenicol	16	20	2													15	3			1	1							
Cephalosporins - Cefotaxime	0.5	20	0							10	9	1																
Fluoroquinolones - Ciprofloxacin	0.064	20	1				4		15			1																
Penicillins - Ampicillin	8	20	10											7	2	1				10								
Quinolones - Nalidixic acid	16	20	1													15	3	1			1							
Tetracyclines - Tetracycline	8	20	10												10					1	9							
Trimethoprim	2	20	1										19							1								
Cephalosporins - Ceftazidime	2	20	0									18	2															
Sulfonamides - Sulfamethoxazole	256	20	9														8	3								9		

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

S. Typhimurium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers	
	yes	
	20	
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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

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

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

S. Infantis	Gallus gallus (fowl) - broilers																										
	yes																										
	34																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	34	0									5	26	2	1												
Aminoglycosides - Kanamycin	8	34	0													34											
Aminoglycosides - Streptomycin	16	34	23														6	5	11	9		3					
Amphenicols - Chloramphenicol	16	34	3													1	10	20	3								
Amphenicols - Florfenicol	16	34	2													2	10	20	2								
Cephalosporins - Cefotaxime	0.5	34	0								9	21	4														
Fluoroquinolones - Ciprofloxacin	0.064	34	23				4	7					16	7													
Penicillins - Ampicillin	8	34	1											8	9	16				1							
Quinolones - Nalidixic acid	16	34	23													10	1				23						
Tetracyclines - Tetracycline	8	34	18											1	10	5					18						
Trimethoprim	2	34	10										24							10							
Cephalosporins - Ceftazidime	2	34	0									1	26	7													
Sulfonamides - Sulfamethoxazole	256	34	19														11	4							19		

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

S. Infantis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers	
	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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

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																											
	yes																											
	14																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	14	0									10	4															
Aminoglycosides - Kanamycin	8	14	0													14												
Aminoglycosides - Streptomycin	16	14	2														1	11	1			1						
Amphenicols - Chloramphenicol	16	14	0												1	5	7	1										
Amphenicols - Florfenicol	16	14	0												1	9	4											
Cephalosporins - Cefotaxime	0.5	14	0							8	6																	
Fluoroquinolones - Ciprofloxacin	0.064	14	0				10		4																			
Penicillins - Ampicillin	8	14	2										2	9	1					2								
Quinolones - Nalidixic acid	16	14	0													12	2											
Tetracyclines - Tetracycline	8	14	2											3	9						2							
Trimethoprim	2	14	1										13							1								
Cephalosporins - Ceftazidime	2	14	0									13	1															
Sulfonamides - Sulfamethoxazole	256	14	1														9	3	1						1			

Table Antimicrobial susceptibility testing of S. Dublin in Cattle (bovine animals) - mixed herds - quantitative data [Dilution method]

S. Dublin	Cattle (bovine animals) - mixed herds	
	yes	
	14	
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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Footnote:

Because of small numbers, data on isolates from dairy cows (n=6), veal calves (n=2) and cattle 'unspecified source' (n=6) are merged.

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

Test Method Used	Standard methods used for testing
Broth dilution	NCCLS/CLSI ISO 20776

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Trimethoprim	Trimethoprim	EFSA	2	

Test Method Used	Standard methods used for testing

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

Test Method Used	Standard methods used for testing
Broth dilution	NCCLS/CLSI ISO 20776

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Trimethoprim	Trimethoprim	EFSA	2	
Polymyxins	Colistin		16	

2.2 CAMPYLOBACTERIOSIS

2.2.1 General evaluation of the national situation

2.2.2 Campylobacter in foodstuffs

Table Campylobacter in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni
Meat from pig - fresh - Retail	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	686	3	1	
Meat from bovine animals - fresh - Retail	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	430	3	1	
Meat from sheep - fresh - Retail	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	52	3	3	

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from pig - fresh - Retail			2
Meat from bovine animals - fresh - Retail			2
Meat from sheep - fresh - Retail			

Table Campylobacter in poultry meat

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni
Meat from broilers (Gallus gallus) - fresh - Retail	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	602	190	57	35
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Retail	NVWA	Objective sampling	Official sampling	food sample > meat		Single	25g	598	67	16	16
Meat from turkey - fresh - Retail	NVWA	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	53	7	3	
Meat from turkey - meat preparation - intended to be eaten cooked - Retail	NVWA	Objective sampling	Official sampling	food sample > meat	Unknown	Single	25g	5	0		

	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus) - fresh - Retail			98
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Retail			35
Meat from turkey - fresh - Retail			4
Meat from turkey - meat preparation - intended to be eaten cooked - Retail			

2.2.3 Campylobacter in animals

Table Campylobacter in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari
Sheep - Farm - Monitoring	GD			animal sample > organ/tissue		Animal	336	13			
Goats - Farm - Monitoring	GD			animal sample > organ/tissue		Animal	199	0			
Pigs - breeding animals - Farm - Monitoring	GD			animal sample > organ/tissue		Animal	2786	0			
Pigs - fattening pigs - Farm - Monitoring	NVWA			animal sample > faeces		Holding	178	165	80	1	
Dogs ¹⁾	VMDC			animal sample > faeces		Animal	104	42			
Cats ²⁾	VMDC			animal sample > faeces		Animal	40	6			
Birds - wild - Unknown - Clinical investigations	VMDC			animal sample > faeces		Animal	61	8			
Cattle (bovine animals) - Farm - Monitoring	GD			animal sample > organ/tissue		Animal	3055	2			
Monkeys - Clinical investigations	VMDC			animal sample > faeces		Animal	195	34			
Other animals - Clinical investigations (exotic mammals)	VMDC			animal sample > faeces		Animal	169	18			

Table Campylobacter in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari
Reptiles - pet animals - Clinical investigations	VMDC			animal sample > faeces		Animal	10	2			

	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Sheep - Farm - Monitoring		13
Goats - Farm - Monitoring		
Pigs - breeding animals - Farm - Monitoring		
Pigs - fattening pigs - Farm - Monitoring		84
Dogs ¹⁾		42
Cats ²⁾		6
Birds - wild - Unknown - Clinical investigations		8
Cattle (bovine animals) - Farm - Monitoring		2
Monkeys - Clinical investigations		34
Other animals - Clinical investigations (exotic mammals)		18
Reptiles - pet animals - Clinical investigations		2

Comments:

Table Campylobacter in animals

Comments:

- 1) clinical investigations
- 2) clinical investigations

2.2.4 Antimicrobial resistance in Campylobacter isolates

Table Antimicrobial susceptibility testing of Campylobacter in Meat from bovine animals

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
	yes					
	1					
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin	1	0				
Fluoroquinolones - Ciprofloxacin	1	1				
Macrolides - Erythromycin	1	1				
Penicillins - Ampicillin	1	1				
Quinolones - Nalidixic acid	1	1				
Tetracyclines - Tetracycline	1	1				
Fully sensitive	1	0				
Resistant to 1 antimicrobial	1	0				
Resistant to 2 antimicrobials	1	0				
Resistant to 3 antimicrobials	1	0				
Resistant to 4 antimicrobials	1	0				
Resistant to >4 antimicrobials	1	1				
Aminoglycosides - Neomycin	1	0				
Aminoglycosides - Streptomycin	1	0				
Amphenicols - Chloramphenicol	1	0				
Macrolides - Clarithromycin	1	1				
Macrolides - Tulathromycin	1	1				

Table Antimicrobial susceptibility testing of Campylobacter in Meat from bovine animals

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
	Isolates out of a monitoring program (yes/no)					
	Number of isolates available in the laboratory					
Antimicrobials:	N	n	N	n	N	n
Sulfonamides - Sulfamethoxazole	1	0				

Table Antimicrobial susceptibility testing of Campylobacter in Meat from pig

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
	yes					
	1					
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin	1	0				
Fluoroquinolones - Ciprofloxacin	1	0				
Macrolides - Erythromycin	1	0				
Penicillins - Ampicillin	1	1				
Quinolones - Nalidixic acid	1	0				
Tetracyclines - Tetracycline	1	0				
Fully sensitive	1	0				
Resistant to 1 antimicrobial	1	1				
Resistant to 2 antimicrobials	1	0				
Resistant to 3 antimicrobials	1	0				
Resistant to 4 antimicrobials	1	0				
Resistant to >4 antimicrobials	1	0				
Aminoglycosides - Neomycin	1	0				
Aminoglycosides - Streptomycin	1	0				
Amphenicols - Chloramphenicol	1	0				
Macrolides - Clarithromycin	1	0				
Macrolides - Tulathromycin	1	0				
Sulfonamides - Sulfamethoxazole	1	0				

Table Antimicrobial susceptibility testing of Campylobacter in Meat from pig

Table Antimicrobial susceptibility testing of Campylobacter in Pigs

Campylobacter Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	C. coli		C. jejuni		Campylobacter spp., unspecified	
	yes		yes		yes	
	214		5		3	
	N	n	N	n	N	n
Aminoglycosides - Gentamicin	214	1	5	0	3	0
Fluoroquinolones - Ciprofloxacin	214	13	5	2	3	0
Macrolides - Erythromycin	214	15	5	1	3	0
Penicillins - Ampicillin	214	81	5	1	3	1
Quinolones - Nalidixic acid	214	18	5	2	3	0
Tetracyclines - Tetracycline	214	182	5	5	3	0
Aminoglycosides - Neomycin	214	8	5	1	3	0
Aminoglycosides - Streptomycin	214	177	5	4	3	2
Amphenicols - Chloramphenicol	214	0	5	0	3	0
Macrolides - Clarithromycin	214	17	5	0	3	0
Macrolides - Tulathromycin	214	17	5	0	3	0
Sulfonamides - Sulfamethoxazole	214	125	5	3	3	2

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

Campylobacter Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	C. coli		C. jejuni		Campylobacter spp., unspecified	
	yes		yes		yes	
	72		54		4	
	N	n	N	n	N	n
Antimicrobials:						
Aminoglycosides - Gentamicin	72	0	54	0	4	0
Fluoroquinolones - Ciprofloxacin	72	59	54	31	4	4
Macrolides - Erythromycin	72	14	54	2	4	0
Penicillins - Ampicillin	72	55	54	38	4	1
Quinolones - Nalidixic acid	72	58	54	33	4	4
Tetracyclines - Tetracycline	72	60	54	29	4	3
Fully sensitive	72	3	54	2	4	0
Resistant to 1 antimicrobial	72	1	54	8	4	0
Resistant to 2 antimicrobials	72	5	54	8	4	1
Resistant to 3 antimicrobials	72	8	54	5	4	0
Resistant to 4 antimicrobials	72	17	54	12	4	1
Resistant to >4 antimicrobials	72	38	54	19	4	2
Aminoglycosides - Neomycin	72	2	54	4	4	1
Aminoglycosides - Streptomycin	72	8	54	3	4	0
Amphenicols - Chloramphenicol	72	0	54	0	4	0
Macrolides - Clarithromycin	72	12	54	2	4	0
Macrolides - Tulathromycin	72	12	54	3	4	0
Sulfonamides - Sulfamethoxazole	72	46	54	46	4	3

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

Table Antimicrobial susceptibility testing of Campylobacter in Gallus gallus (fowl) - broilers - Monitoring - animal sample

Campylobacter Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	C. coli		C. jejuni	
	yes		yes	
	83		167	
	N	n	N	n
Fully sensitive	83	35	167	62
Resistant to 1 antimicrobial	83	11	167	46
Resistant to 2 antimicrobials	83	21	167	58
Resistant to 3 antimicrobials	83	16	167	1
Resistant to 4 antimicrobials	83	0	167	0
Resistant to >4 antimicrobials	83	0	167	0

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

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

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

Table Antimicrobial susceptibility testing of C. coli in Gallus gallus (fowl) - broilers - Monitoring - animal sample - quantitative data [Dilution method]

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

C. coli	Gallus gallus (fowl) - broilers - Monitoring																											
	yes																											
	83																											
	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	83	0									82	1															
Aminoglycosides - Neomycin	4	83	3										80							3								
Aminoglycosides - Streptomycin	4	83	9											73		1		3	6									
Amphenicols - Chloramphenicol	16	83	2												6	49	26		2									
Fluoroquinolones - Ciprofloxacin	0.5	83	40								36	6	1			10	8	22										
Penicillins - Ampicillin	8	83	26												1	16	40	11	6	9								
Quinolones - Nalidixic acid	16	83	40													28	13	2			31	9						
Tetracyclines - Tetracycline	2	83	38										37	8						38								
Macrolides - Clarithromycin	32	83	13										26	29	8	6	1	2	4		7							
Macrolides - Erythromycin	8	83	14										25	23	14	7			4	3	7							
Macrolides - Tulathromycin	16	83	14										69					1	6	2	5							
Sulfonamides - Sulfamethoxazole	256	83	27														4	8	25	19	3		8	13	3			

C. coli	Gallus gallus (fowl) - broilers - Monitoring	
	yes	
	83	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin		

Table Antimicrobial susceptibility testing of *C. coli* in *Gallus gallus* (fowl) - broilers - Monitoring - animal sample - quantitative data [Dilution method]

C. coli	Gallus gallus (fowl) - broilers - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
Antimicrobials:	Number of isolates available in the laboratory	
	83	
	lowest	highest
Aminoglycosides - Neomycin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Fluoroquinolones - Ciprofloxacin		
Penicillins - Ampicillin		
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Macrolides - Clarithromycin		
Macrolides - Erythromycin		
Macrolides - Tulathromycin		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of C. coli in Pigs - fattening pigs - Monitoring - animal sample - quantitative data [Dilution method]

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

C. coli	Pigs - fattening pigs - Monitoring																											
	yes																											
	214																											
	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	214	1								124	88	1						1									
Aminoglycosides - Neomycin	4	214	8									149	42	8	7	3	1	3	1									
Aminoglycosides - Streptomycin	4	214	177										28	7	2	9	48	84	14	4	18							
Amphenicols - Chloramphenicol	16	214	0											9	96	91	18											
Fluoroquinolones - Ciprofloxacin	0.5	214	13							168	28	5		1	3	3	3	3										
Penicillins - Ampicillin		214	214										1	4	33	95	58	5	18									
Quinolones - Nalidixic acid	16	214	18										1		40	130	25	2	2	4	10							
Tetracyclines - Tetracycline	2	214	182									20	8	4	4		1	4	3	170								
Macrolides - Clarithromycin	32	214	15									10	44	88	52	3	1	1		15								
Macrolides - Erythromycin	8	214	15									6	39	95	54	5				15								
Macrolides - Tulathromycin	16	214	13									148	42	7		1	3	4	7	2								
Sulfonamides - Sulfamethoxazole	256	214	116													36	29	14	10	1	8	25		49	42			

C. coli	Pigs - fattening pigs - Monitoring	
	yes	
	214	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of *C. coli* in Pigs - fattening pigs - Monitoring - animal sample - quantitative data [Dilution method]

C. coli Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - fattening pigs - Monitoring	
	yes	
	214	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Neomycin	0.5	64
Aminoglycosides - Streptomycin	1	128
Amphenicols - Chloramphenicol	2	128
Fluoroquinolones - Ciprofloxacin	0.12	16
Penicillins - Ampicillin	0.25	32
Quinolones - Nalidixic acid	1	128
Tetracyclines - Tetracycline	0.5	64
Macrolides - Clarithromycin	0.5	64
Macrolides - Erythromycin	0.5	64
Macrolides - Tulathromycin	0.5	64
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of C. jejuni in Gallus gallus (fowl) - broilers - Monitoring - animal sample - quantitative data [Dilution method]

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

C. jejuni	Gallus gallus (fowl) - broilers - Monitoring																											
	yes																											
	167																											
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	167	0									167																
Aminoglycosides - Neomycin	1	167	1										166					1										
Aminoglycosides - Streptomycin	4	167	1											166				1										
Amphenicols - Chloramphenicol	16	167	0												70	63	26	8										
Fluoroquinolones - Ciprofloxacin	0.5	167	82								76	5	4	1		2	34	24	21									
Penicillins - Ampicillin	8	167	76												7	47	37	5	16	55								
Quinolones - Nalidixic acid	16	167	83												6	61	16	1	2		12	69						
Tetracyclines - Tetracycline	1	167	82										79	6	3				23	56								
Macrolides - Clarithromycin	8	121	0											1	81	30	9											
Macrolides - Erythromycin	4	167	0										57	76	30	4												
Macrolides - Tulathromycin	16	167	0										161	6														
Sulfonamides - Sulfamethoxazole	256	167	107														3	12	45	84	21	1			1			

C. jejuni	Gallus gallus (fowl) - broilers - Monitoring	
	yes	
	167	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin		

Table Antimicrobial susceptibility testing of *C. jejuni* in *Gallus gallus* (fowl) - broilers - Monitoring - animal sample - quantitative data [Dilution method]

C. jejuni Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - Monitoring	
	yes	
	167	
Antimicrobials:	lowest	highest
Aminoglycosides - Neomycin		
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Fluoroquinolones - Ciprofloxacin		
Penicillins - Ampicillin		
Quinolones - Nalidixic acid		
Tetracyclines - Tetracycline		
Macrolides - Clarithromycin		
Macrolides - Erythromycin		
Macrolides - Tulathromycin		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of C. jejuni in Meat from broilers (Gallus gallus) - Monitoring - quantitative data [Dilution method]

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

C. jejuni	Meat from broilers (Gallus gallus) - Monitoring																											
	yes																											
	54																											
	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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	54	0									46	8															
Aminoglycosides - Neomycin	1	54	4										49	1			1		2	1								
Aminoglycosides - Streptomycin	4	54	3											50		1		2	1									
Amphenicols - Chloramphenicol	16	54	0												21	19	10	4										
Fluoroquinolones - Ciprofloxacin	0.5	54	31								19	4			1		7	17	6									
Penicillins - Ampicillin	8	54	38												1	7	8	5	5	28								
Quinolones - Nalidixic acid	16	54	33												1	15	5		1		4	28						
Tetracyclines - Tetracycline	1	54	29										20	5	2				1	3	23							
Macrolides - Clarithromycin	8	54	2										18	18	11	5					2							
Macrolides - Erythromycin	4	54	2										19	21	11	1					2							
Macrolides - Tulathromycin	16	54	3										40	10		1		2			1							
Sulfonamides - Sulfamethoxazole	256	54	46														3	2	3	3	8	7	8	4	16			

C. jejuni	Meat from broilers (Gallus gallus) - Monitoring	
	yes	
	54	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of *C. jejuni* in Meat from broilers (*Gallus gallus*) - Monitoring - quantitative data [Dilution method]

C. jejuni Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - Monitoring	
	yes	
	54	
Antimicrobials:	lowest	highest
Aminoglycosides - Neomycin	0.5	64
Aminoglycosides - Streptomycin	1	128
Amphenicols - Chloramphenicol	2	128
Fluoroquinolones - Ciprofloxacin	0.12	16
Penicillins - Ampicillin	0.25	32
Quinolones - Nalidixic acid	1	128
Tetracyclines - Tetracycline	0.5	64
Macrolides - Clarithromycin	0.5	64
Macrolides - Erythromycin	0.5	64
Macrolides - Tulathromycin	0.5	64
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of C. coli in Meat from broilers (Gallus gallus) - Monitoring - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
C. coli	Meat from broilers (Gallus gallus) - Monitoring																										
	Isolates out of a monitoring program (yes/no)																										
	yes																										
	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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	72	0									35	35	2													
Aminoglycosides - Neomycin	4	72	2										56	13	1					2							
Aminoglycosides - Streptomycin	4	72	8											52	12				2	2	3	1					
Amphenicols - Chloramphenicol	16	72	0												6	36	24	6									
Fluoroquinolones - Ciprofloxacin	0.5	72	59								9	4				6	27	16	10								
Penicillins - Ampicillin		72	72												3	4	10	12	2	41							
Quinolones - Nalidixic acid	16	72	58												1	2	9	2			41	17					
Tetracyclines - Tetracycline	2	72	58										9	3	2						58						
Macrolides - Clarithromycin	32	72	12										26	9	14	9	2	1			11						
Macrolides - Erythromycin	8	72	12										26	13	10	9	2		1		11						
Macrolides - Tulathromycin	16	72	12										53	7				1	2	3	6						
Sulfonamides - Sulfamethoxazole	256	72	31														6	9	11	15	7	1	1	6	16		

C. coli	Meat from broilers (Gallus gallus) - Monitoring	
	yes	
	72	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of *C. coli* in Meat from broilers (*Gallus gallus*) - Monitoring - quantitative data [Dilution method]

C. coli Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - Monitoring	
	yes	
	72	
Antimicrobials:	lowest	highest
Aminoglycosides - Neomycin	0.5	64
Aminoglycosides - Streptomycin	1	128
Amphenicols - Chloramphenicol	2	128
Fluoroquinolones - Ciprofloxacin	0.12	16
Penicillins - Ampicillin	0.25	32
Quinolones - Nalidixic acid	1	128
Tetracyclines - Tetracycline	0.5	64
Macrolides - Clarithromycin	0.5	64
Macrolides - Erythromycin	0.5	64
Macrolides - Tulathromycin	0.5	64
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Campylobacter spp., unspecified in Meat from broilers (Gallus gallus) - Monitoring - quantitative data [Dilution method]

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

Campylobacter spp., unspecified	Meat from broilers (Gallus gallus) - Monitoring																											
	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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	4	0									4																
Aminoglycosides - Neomycin	2	4	1										3				1											
Aminoglycosides - Streptomycin	4	4	0											4														
Amphenicols - Chloramphenicol	16	4	0												3	1												
Fluoroquinolones - Ciprofloxacin	0.5	4	4														2	2										
Penicillins - Ampicillin	8	4	1												1		2			1								
Quinolones - Nalidixic acid	16	4	4																		2	2						
Tetracyclines - Tetracycline	1	4	3										1							1	2							
Macrolides - Clarithromycin	8	4	0										2	1	1													
Macrolides - Erythromycin	4	4	0										2	1	1													
Macrolides - Tulathromycin	4	4	0										4															
Sulfonamides - Sulfamethoxazole	32	4	3																1	2			1					

Campylobacter spp., unspecified	Meat from broilers (Gallus gallus) - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of *Campylobacter* spp., unspecified in Meat from broilers (*Gallus gallus*) - Monitoring - quantitative data [Dilution method]

Campylobacter spp., unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - Monitoring	
	yes	
	4	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Neomycin	0.5	64
Aminoglycosides - Streptomycin	1	128
Amphenicols - Chloramphenicol	2	128
Fluoroquinolones - Ciprofloxacin	0.12	16
Penicillins - Ampicillin	0.25	32
Quinolones - Nalidixic acid	1	128
Tetracyclines - Tetracycline	0.5	64
Macrolides - Clarithromycin	0.5	64
Macrolides - Erythromycin	0.5	64
Macrolides - Tulathromycin	0.5	64
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of C. coli in Meat from bovine animals - Monitoring (veal) - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
C. coli	Meat from bovine animals - Monitoring (veal)																										
	Isolates out of a monitoring program (yes/no)																										
	yes																										
	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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	1	0										1														
Aminoglycosides - Neomycin	4	1	0										1														
Aminoglycosides - Streptomycin	4	1	0											1													
Amphenicols - Chloramphenicol	16	1	0														1										
Fluoroquinolones - Ciprofloxacin	0.5	1	1														1										
Penicillins - Ampicillin		1	1																	1							
Quinolones - Nalidixic acid	16	1	1																		1						
Tetracyclines - Tetracycline	2	1	1																		1						
Macrolides - Clarithromycin	32	1	1																		1						
Macrolides - Erythromycin	8	1	1																		1						
Macrolides - Tulathromycin	16	1	1																		1						
Sulfonamides - Sulfamethoxazole	256	1	0																	1							

Table Antimicrobial susceptibility testing of *C. coli* in Meat from bovine animals - Monitoring (veal) - quantitative data [Dilution method]

C. coli Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from bovine animals - Monitoring (veal)	
	yes	
	1	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin	0.25	32
Aminoglycosides - Neomycin	0.5	64
Aminoglycosides - Streptomycin	1	128
Amphenicols - Chloramphenicol	2	128
Fluoroquinolones - Ciprofloxacin	0.12	16
Penicillins - Ampicillin	0.25	32
Quinolones - Nalidixic acid	1	128
Tetracyclines - Tetracycline	0.5	64
Macrolides - Clarithromycin	0.5	64
Macrolides - Erythromycin	0.5	64
Macrolides - Tulathromycin	0.5	64
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of C. coli in Meat from pig - Monitoring - quantitative data [Dilution method]

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

C. coli	Meat from pig - Monitoring																											
	yes																											
	1																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	1	1																1									
Aminoglycosides - Neomycin	4	1	0										1															
Aminoglycosides - Streptomycin	4	1	0												1													
Amphenicols - Chloramphenicol	16	1	0														1											
Fluoroquinolones - Ciprofloxacin	0.5	1	0								1																	
Penicillins - Ampicillin		1	1															1										
Quinolones - Nalidixic acid	16	1	0														1											
Tetracyclines - Tetracycline	2	1	0											1														
Macrolides - Clarithromycin	32	1	0												1													
Macrolides - Erythromycin	8	1	0												1													
Macrolides - Tulathromycin	16	1	0										1															
Sulfonamides - Sulfamethoxazole	256	1	0																1									

C. coli	Meat from pig - Monitoring	
	yes	
	1	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of *C. coli* in Meat from pig - Monitoring - quantitative data [Dilution method]

C. coli Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from pig - Monitoring	
	yes	
	1	
Antimicrobials:	lowest	highest
Aminoglycosides - Neomycin	0.5	64
Aminoglycosides - Streptomycin	1	128
Amphenicols - Chloramphenicol	2	128
Fluoroquinolones - Ciprofloxacin	0.12	16
Penicillins - Ampicillin	0.25	32
Quinolones - Nalidixic acid	1	128
Tetracyclines - Tetracycline	0.5	64
Macrolides - Clarithromycin	0.5	64
Macrolides - Erythromycin	0.5	64
Macrolides - Tulathromycin	0.5	64
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of C. coli in Meat from sheep - Monitoring (lamb) - quantitative data [Dilution method]

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

C. coli	Meat from sheep - Monitoring (lamb)																										
	yes																										
	3																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	3	3																1	1						1	
Aminoglycosides - Neomycin	4	3	0										2	1													
Aminoglycosides - Streptomycin	4	3	0											2	1												
Amphenicols - Chloramphenicol	16	3	0														3										
Fluoroquinolones - Ciprofloxacin	0.5	3	0								3																
Penicillins - Ampicillin		3	3															3									
Quinolones - Nalidixic acid	16	3	0														3										
Tetracyclines - Tetracycline	2	3	2										1			1					1						
Macrolides - Clarithromycin	32	3	0												2	1											
Macrolides - Erythromycin	8	3	0												2	1											
Macrolides - Tulathromycin	16	3	0										3														
Sulfonamides - Sulfamethoxazole	256																										

C. coli	Meat from sheep - Monitoring (lamb)	
	yes	
	3	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of *C. coli* in Meat from sheep - Monitoring (lamb) - quantitative data [Dilution method]

C. coli Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from sheep - Monitoring (lamb)	
	yes	
	3	
	lowest	highest
Aminoglycosides - Neomycin	0.5	64
Aminoglycosides - Streptomycin	1	128
Amphenicols - Chloramphenicol	2	128
Fluoroquinolones - Ciprofloxacin	0.12	16
Penicillins - Ampicillin	0.25	32
Quinolones - Nalidixic acid	1	128
Tetracyclines - Tetracycline	0.5	64
Macrolides - Clarithromycin	0.5	64
Macrolides - Erythromycin	0.5	64
Macrolides - Tulathromycin	0.5	64
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of C. jejuni in Pigs - Monitoring - quantitative data [Dilution method]

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

C. jejuni	Pigs - Monitoring																											
	yes																											
	5																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	5	0									4	1															
Aminoglycosides - Neomycin	1	5	1										4				1											
Aminoglycosides - Streptomycin	4	5	4											1			2	2										
Amphenicols - Chloramphenicol	16	5	0												1		4											
Fluoroquinolones - Ciprofloxacin	0.5	5	2								3						1		1									
Penicillins - Ampicillin	8	5	1														4		1									
Quinolones - Nalidixic acid	16	5	2													1	2					2						
Tetracyclines - Tetracycline	1	5	5																	1	4							
Macrolides - Clarithromycin	8	5	0											2	2	1												
Macrolides - Erythromycin	4	5	1											1	3	0	1											
Macrolides - Tulathromycin	16	5	0										5															
Sulfonamides - Sulfamethoxazole	256	5	3														2						2	1				

C. jejuni	Pigs - Monitoring	
	yes	
	5	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of *C. jejuni* in Pigs - Monitoring - quantitative data [Dilution method]

C. jejuni Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - Monitoring	
	yes	
	5	
Antimicrobials:	lowest	highest
Aminoglycosides - Neomycin	0.5	64
Aminoglycosides - Streptomycin	1	128
Amphenicols - Chloramphenicol	2	128
Fluoroquinolones - Ciprofloxacin	0.12	16
Penicillins - Ampicillin	0.25	32
Quinolones - Nalidixic acid	1	128
Tetracyclines - Tetracycline	0.5	64
Macrolides - Clarithromycin	0.5	64
Macrolides - Erythromycin	0.5	64
Macrolides - Tulathromycin	0.5	64
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of C. coli in Meat from turkey - Monitoring - quantitative data [Dilution method]

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

C. coli	Meat from turkey - Monitoring																											
	yes																											
	3																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	3	0									3																
Aminoglycosides - Neomycin	4	3	0										3															
Aminoglycosides - Streptomycin	4	3	1											2					1									
Amphenicols - Chloramphenicol	16	3	0													3												
Fluoroquinolones - Ciprofloxacin	0.5	3	2								1					1	1											
Penicillins - Ampicillin		3	3													1	1		1									
Quinolones - Nalidixic acid	16	3	2													1					2							
Tetracyclines - Tetracycline	2	3	2										1								2							
Macrolides - Clarithromycin	32	3	0										2	1														
Macrolides - Erythromycin	8	3	0										2	1														
Macrolides - Tulathromycin	16	3	0										3															
Sulfonamides - Sulfamethoxazole	256	3	0															1	1		1							

C. coli	Meat from turkey - Monitoring	
	yes	
	3	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of *C. coli* in Meat from turkey - Monitoring - quantitative data [Dilution method]

C. coli Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from turkey - Monitoring	
	yes	
	3	
Antimicrobials:	lowest	highest
Aminoglycosides - Neomycin	0.5	64
Aminoglycosides - Streptomycin	1	128
Amphenicols - Chloramphenicol	2	128
Fluoroquinolones - Ciprofloxacin	0.12	16
Penicillins - Ampicillin	0.25	32
Quinolones - Nalidixic acid	1	128
Tetracyclines - Tetracycline	0.5	64
Macrolides - Clarithromycin	0.5	64
Macrolides - Erythromycin	0.5	64
Macrolides - Tulathromycin	0.5	64
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of Campylobacter spp., unspecified in Pigs - Monitoring - quantitative data [Dilution method]

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

Campylobacter spp., unspecified	Pigs - Monitoring																											
	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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	3	0									2	1															
Aminoglycosides - Neomycin	2	3	0										1	2														
Aminoglycosides - Streptomycin	4	3	2											1				1	1									
Amphenicols - Chloramphenicol	16	3	0													1	1	1										
Fluoroquinolones - Ciprofloxacin	0.5	3	0								2	1																
Penicillins - Ampicillin	8	3	1														2	1										
Quinolones - Nalidixic acid	16	3	0													1	2											
Tetracyclines - Tetracycline	1	3	0										2	1														
Macrolides - Clarithromycin	8	3	0											1	1	1												
Macrolides - Erythromycin	4	3	0											1	1	1												
Macrolides - Tulathromycin	4	3	0										2	1														
Sulfonamides - Sulfamethoxazole	32	3	2															1							1	1		

Campylobacter spp., unspecified	Pigs - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
	Number of isolates available in the laboratory	
Antimicrobials:	3	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of *Campylobacter* spp., unspecified in Pigs - Monitoring - quantitative data [Dilution method]

Campylobacter spp., unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Pigs - Monitoring	
	yes	
	3	
	lowest	highest
Aminoglycosides - Neomycin	0.5	64
Aminoglycosides - Streptomycin	1	128
Amphenicols - Chloramphenicol	2	128
Fluoroquinolones - Ciprofloxacin	0.12	16
Penicillins - Ampicillin	0.25	32
Quinolones - Nalidixic acid	1	128
Tetracyclines - Tetracycline	0.5	64
Macrolides - Clarithromycin	0.5	64
Macrolides - Erythromycin	0.5	64
Macrolides - Tulathromycin	0.5	64
Sulfonamides - Sulfamethoxazole	8	1024

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

Test Method Used		Standard methods used for testing		
Broth dilution		ISO 20776		

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
	Neomycin		2	
Fluoroquinolones	Ciprofloxacin		0.5	
Macrolides	Erythromycin		4	
	Clarithromycin		8	
	Tulathromycin		4	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfamethoxazole		32	
Tetracyclines	Tetracycline		1	
Amphenicols	Chloramphenicol		16	

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

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

Test Method Used	Standard methods used for testing
Broth dilution	ISO 20776

		Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >
			Resistant <=
Aminoglycosides	Gentamicin		2
	Streptomycin		4
	Neomycin		2
Fluoroquinolones	Ciprofloxacin		0.5
Macrolides	Erythromycin		4
	Clarithromycin		8
	Tulathromycin		4
Penicillins	Ampicillin		8
Quinolones	Nalidixic acid		16
Sulfonamides	Sulfamethoxazole		32
Tetracyclines	Tetracycline		1
Amphenicols	Chloramphenicol		16

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

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

Test Method Used		Standard methods used for testing		
Broth dilution		ISO 20776		

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	
	Streptomycin	EFSA	4	
	Neomycin		4	
Fluoroquinolones	Ciprofloxacin	EFSA	0.5	
Macrolides	Erythromycin	EFSA	8	
	Clarithromycin		32	
	Tulathromycin		16	
Quinolones	Nalidixic acid	EFSA	16	
Sulfonamides	Sulfamethoxazole		256	
Tetracyclines	Tetracycline	EFSA	2	
Amphenicols	Chloramphenicol		16	

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

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

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

Test Method Used		Standard methods used for testing		
Broth dilution		ISO 20776		

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	
	Streptomycin	EFSA	4	
	Neomycin		4	
Fluoroquinolones	Ciprofloxacin	EFSA	0.5	
Macrolides	Erythromycin	EFSA	8	
	Clarithromycin		32	
	Tulathromycin		16	
Quinolones	Nalidixic acid	EFSA	16	
Sulfonamides	Sulfamethoxazole		256	
Tetracyclines	Tetracycline	EFSA	2	
Amphenicols	Chloramphenicol		16	

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

Test Method Used		Standard methods used for testing		
Broth dilution		ISO20776		

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	
	Streptomycin	EFSA	4	
	Neomycin		1	
Fluoroquinolones	Ciprofloxacin	EFSA	0.5	
Macrolides	Erythromycin	EFSA	4	
	Clarithromycin		8	
	Tulathromycin		16	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid	EFSA	16	
Sulfonamides	Sulfamethoxazole		256	
Tetracyclines	Tetracycline	EFSA	1	
Amphenicols	Chloramphenicol		16	

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

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

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

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

Test Method Used		Standard methods used for testing		
Broth dilution		ISO20776		

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	
	Streptomycin	EFSA	4	
	Neomycin		1	
Fluoroquinolones	Ciprofloxacin	EFSA	0.5	
Macrolides	Erythromycin	EFSA	4	
	Clarithromycin		8	
	Tulathromycin		16	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid	EFSA	16	
Sulfonamides	Sulfamethoxazole		256	
Tetracyclines	Tetracycline	EFSA	1	
Amphenicols	Chloramphenicol		16	

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

2.3 LISTERIOSIS

2.3.1 General evaluation of the national situation

2.3.2 Listeria in foodstuffs

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 L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - Retail - Surveillance	NVWA	Objective sampling	Official sampling	feed sample		Single	25g	186	1	175	1
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample		Single	25g	27	0	26	0
Cheeses made from goats' milk - hard - made from raw or low heat-treated milk - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample		Single	25g	49	1	49	1

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - Retail - Surveillance	184	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 - soft and semi-soft - made from raw or low heat-treated milk - Retail - Surveillance	27	0	0
Cheeses made from goats' milk - hard - made from raw or low heat-treated milk - Retail - Surveillance	49	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 <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g
Fish - smoked - Retail - Surveillance	NVWA	Objective sampling	Official sampling	food sample	Unknown	Single	25g	1061	14	0	0
Fish - Surveillance (sushi)	NVWA	Objective sampling	Official sampling	food sample	Unknown	Single	25g	561	74	450	77
Fishery products, unspecified	NVWA	Objective sampling	Official sampling	food sample	Unknown	Batch	25g	82	6	79	5
Fruits - Retail - Surveillance (melon, ready-to-eat)	NVWA	Objective sampling	Official sampling	food sample	Unknown	Single	25g	312	0	312	0
Other food (sesame paste)	NVWA	Objective sampling	Official sampling	food sample	Unknown	Batch	25g	47	0	47	0
Other food - Processing plant - Surveillance (bean curd)	NVWA	Objective sampling	Official sampling	food sample	Unknown	Batch	25g	31	2	31	2
Seeds, sprouted - non-ready-to-eat - Processing plant - Surveillance	NVWA	Objective sampling	Official sampling	food sample	Unknown	Batch	25g	26	2	26	2

	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Fish - smoked - Retail - Surveillance	1061	12	2
Fish - Surveillance (sushi)	111	0	0
Fishery products, unspecified	82	2	2
Fruits - Retail - Surveillance (melon, ready-to-eat)	0	0	0
Other food (sesame paste)	3	0	0
Other food - Processing plant - Surveillance (bean curd)	0	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
Seeds, sprouted - non-ready-to-eat - Processing plant - Surveillance	0	0	0

2.3.3 Listeria in animals

Table Listeria in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Listeria	L. monocytogenes	Listeria spp., unspecified
Sheep - Farm - Monitoring	GD			animal sample > organ/tissue		Animal	336	5		5
Goats - Farm - Monitoring	GD			animal sample > organ/tissue		Animal	199	12		12
Pigs - Farm - Monitoring	GD			animal sample > organ/tissue		Animal	2786	0		
Cattle (bovine animals) - Farm - Monitoring	GD			animal sample > organ/tissue		Animal	3055	12		12

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

2.4.2 Escherichia coli, pathogenic in foodstuffs

Table VT E. coli in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Analytical Method	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157
Meat from bovine animals - fresh - Retail - Surveillance ¹⁾	NVWA	Objective sampling	Official sampling	food sample	Domestic		Single	25g	337	28	0
Meat from sheep - fresh - Retail - Surveillance ²⁾	NVWA	Objective sampling	Official sampling	food sample	Unknown		Single	25g	34	6	
Seeds, sprouted - ready-to-eat - Processing plant - Surveillance ³⁾	NVWA	Objective sampling		food sample	Domestic		Batch	25g	29	0	
Meat from bovine animals - meat preparation - Retail - Surveillance ⁴⁾	NVWA	Objective sampling	Official sampling	food sample			Single	25g	458	78	
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - Processing plant - Surveillance ⁵⁾	NVWA	Objective sampling	Official sampling	food sample			Batch	25g	14	0	
Meat from pig - mechanically separated meat (MSM) - Processing plant - Surveillance ⁶⁾	NVWA	Objective sampling	Official sampling	food sample			Batch	25g	5	0	
Meat from sheep - meat preparation - Retail - Surveillance ⁷⁾	NVWA	Objective sampling	Official sampling	food sample			Single	25g	13	2	
Spices and herbs - fresh - Surveillance (import)	NVWA	Objective sampling	Official sampling	food sample			Batch	25g	19	1	

Table VT E. coli in food

	Verotoxigenic E. coli (VTEC) - VTEC non- O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat from bovine animals - fresh - Retail - Surveillance ¹⁾	7	21
Meat from sheep - fresh - Retail - Surveillance ²⁾	4	2
Seeds, sprouted - ready-to-eat - Processing plant - Surveillance ³⁾		
Meat from bovine animals - meat preparation - Retail - Surveillance ⁴⁾		78
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - Processing plant - Surveillance ⁵⁾		
Meat from pig - mechanically separated meat (MSM) - Processing plant - Surveillance ⁶⁾		
Meat from sheep - meat preparation - Retail - Surveillance ⁷⁾	1	1
Spices and herbs - fresh - Surveillance (import)		1

Comments:

¹⁾ ISO TS 13136:2012²⁾ ISO TS 13136:2012³⁾ ISO TS 13136:2012⁴⁾ ISO TS 13136:2012⁵⁾ ISO TS 13136:2012⁶⁾ ISO TS 13136:2012

Table VT E. coli in food

Comments:

⁷⁾ ISO TS 13136:2012

2.4.3 Escherichia coli, pathogenic in animals

Table VT E. coli in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Analytical Method	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157
Sheep - Farm - Monitoring	GD	Unspecified	Not applicable	animal sample > organ/tissue	Domestic		Animal		336	0	
Goats - Farm - Monitoring	GD	Unspecified	Not applicable	animal sample > organ/tissue	Domestic		Animal		199	0	
Pigs - Farm - Monitoring ¹⁾	NVWA	Objective sampling	Official sampling	animal sample > faeces	Domestic		Holding	25g	183	137	
	Verotoxigenic E. coli (VTEC) - VTEC non-O157		Verotoxigenic E. coli (VTEC) - VTEC, unspecified								
Sheep - Farm - Monitoring											
Goats - Farm - Monitoring											
Pigs - Farm - Monitoring ¹⁾	29		108								

Comments:

¹⁾ ISO13029 ISO/TS13136:2012,mixed Faeces from compartments

2.4.4 Antimicrobial resistance in Escherichia coli, pathogenic isolates

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Spices and herbs - fresh

Escherichia coli, pathogenic	E.coli, pathogenic, unspecified	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	2	0
Aminoglycosides - Kanamycin	2	0
Aminoglycosides - Streptomycin	2	0
Amphenicols - Chloramphenicol	2	0
Amphenicols - Florfenicol	2	0
Cephalosporins - Cefotaxime	2	0
Fluoroquinolones - Ciprofloxacin	2	0
Penicillins - Ampicillin	2	0
Quinolones - Nalidixic acid	2	0
Tetracyclines - Tetracycline	2	0
Trimethoprim	2	0
Cephalosporins - Ceftazidime	2	0
Fully sensitive	2	1
Polymyxins - Colistin	2	0
Resistant to 1 antimicrobial	2	1
Resistant to 2 antimicrobials	2	0
Resistant to 3 antimicrobials	2	0

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Spices and herbs - fresh

Escherichia coli, pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	E.coli, pathogenic, unspecified	
	yes	
	2	
	N	n
Resistant to 4 antimicrobials	2	0
Resistant to >4 antimicrobials	2	0
Sulfonamides - Sulfamethoxazole	2	1

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Meat from bovine animals

Escherichia coli, pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	E.coli, pathogenic, unspecified	
	yes	
	267	
Antimicrobials:	N	n
Amphenicols - Chloramphenicol	267	11
Amphenicols - Florfenicol	267	2
Cephalosporins - Cefotaxime	267	4
Fluoroquinolones - Ciprofloxacin	67	14
Penicillins - Ampicillin	267	33
Quinolones - Nalidixic acid	267	12
Tetracyclines - Tetracycline	267	38
Trimethoprim	267	26
Cephalosporins - Ceftazidime	267	6
Fully sensitive	267	197
Polymyxins - Colistin	267	3
Resistant to 1 antimicrobial	267	26
Resistant to 2 antimicrobials	267	7
Resistant to 3 antimicrobials	267	7
Resistant to 4 antimicrobials	267	5
Resistant to >4 antimicrobials	267	25
Sulfonamides - Sulfamethoxazole	267	36

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Meat from bovine animals

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Meat from pig

Escherichia coli, pathogenic	E.coli, pathogenic, unspecified	
	yes	
	156	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory		
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	156	8
Aminoglycosides - Kanamycin	156	1
Aminoglycosides - Streptomycin	156	42
Amphenicols - Chloramphenicol	156	11
Amphenicols - Florfenicol	156	2
Cephalosporins - Cefotaxime	156	2
Fluoroquinolones - Ciprofloxacin	156	5
Penicillins - Ampicillin	156	30
Quinolones - Nalidixic acid	156	4
Tetracyclines - Tetracycline	156	33
Trimethoprim	156	33
Cephalosporins - Ceftazidime	156	1
Fully sensitive	156	91
Polymyxins - Colistin	156	3
Resistant to 1 antimicrobial	156	20
Resistant to 2 antimicrobials	156	7
Resistant to 3 antimicrobials	156	7
Resistant to 4 antimicrobials	156	11
Resistant to >4 antimicrobials	156	20

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Meat from pig

Escherichia coli, pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	E.coli, pathogenic, unspecified	
	yes	
	156	
	N	n
Sulfonamides - Sulfamethoxazole	156	36

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Meat from sheep (lamb)

Escherichia coli, pathogenic	E.coli, pathogenic, unspecified	
	yes	
	14	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory		
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	14	0
Aminoglycosides - Kanamycin	14	1
Aminoglycosides - Streptomycin	14	3
Amphenicols - Chloramphenicol	14	0
Amphenicols - Florfenicol	14	0
Cephalosporins - Cefotaxime	14	0
Fluoroquinolones - Ciprofloxacin	14	1
Penicillins - Ampicillin	14	1
Quinolones - Nalidixic acid	14	1
Tetracyclines - Tetracycline	14	3
Trimethoprim	14	0
Cephalosporins - Ceftazidime	14	0
Fully sensitive	14	10
Polymyxins - Colistin	14	1
Resistant to 1 antimicrobial	14	1
Resistant to 2 antimicrobials	14	0
Resistant to 3 antimicrobials	14	2
Resistant to 4 antimicrobials	14	0
Resistant to >4 antimicrobials	14	1

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Meat from sheep (lamb)

Escherichia coli, pathogenic	E.coli, pathogenic, unspecified	
	yes	
	14	
	N	n
Antimicrobials:		
Sulfonamides - Sulfamethoxazole	14	3

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Meat from turkey

Escherichia coli, pathogenic	E.coli, pathogenic, unspecified	
	yes	
	54	
	N	n
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory		
Antimicrobials:		
Aminoglycosides - Gentamicin	54	6
Aminoglycosides - Kanamycin	54	15
Aminoglycosides - Streptomycin	54	28
Amphenicols - Chloramphenicol	54	11
Amphenicols - Florfenicol	54	2
Cephalosporins - Cefotaxime	54	2
Fluoroquinolones - Ciprofloxacin	54	20
Penicillins - Ampicillin	54	39
Quinolones - Nalidixic acid	54	20
Tetracyclines - Tetracycline	54	29
Trimethoprim	54	18
Cephalosporins - Ceftazidime	54	2
Fully sensitive	54	6
Polymyxins - Colistin	54	15
Resistant to 1 antimicrobial	54	5
Resistant to 2 antimicrobials	54	8
Resistant to 3 antimicrobials	54	4
Resistant to 4 antimicrobials	54	5
Resistant to >4 antimicrobials	54	26

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Meat from turkey

Escherichia coli, pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	E.coli, pathogenic, unspecified	
	yes	
	54	
	N	n
Sulfonamides - Sulfamethoxazole	54	27

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Meat from broilers (Gallus gallus)

Escherichia coli, pathogenic	E.coli, pathogenic, unspecified	
	yes	
	476	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory		
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	476	43
Aminoglycosides - Kanamycin	476	50
Aminoglycosides - Streptomycin	476	237
Amphenicols - Chloramphenicol	476	67
Amphenicols - Florfenicol	476	8
Cephalosporins - Cefotaxime	476	51
Fluoroquinolones - Ciprofloxacin	476	215
Penicillins - Ampicillin	476	243
Quinolones - Nalidixic acid	476	202
Tetracyclines - Tetracycline	476	184
Trimethoprim	476	53
Cephalosporins - Ceftazidime	476	51
Fully sensitive	476	96
Polymyxins - Colistin	476	22
Resistant to 1 antimicrobial	476	38
Resistant to 2 antimicrobials	476	69
Resistant to 3 antimicrobials	476	45
Resistant to 4 antimicrobials	476	38
Resistant to >4 antimicrobials	476	190

Table Antimicrobial susceptibility testing of Escherichia coli, pathogenic in Meat from broilers (Gallus gallus)

Escherichia coli, pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	E.coli, pathogenic, unspecified	
	yes	
	476	
	N	n
Sulfonamides - Sulfamethoxazole	476	222

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Spices and herbs - fresh - quantitative data [Dilution method]

Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
E.coli, pathogenic, unspecified	Spices and herbs - fresh																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	2																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	2	2	2											2													
Aminoglycosides - Kanamycin	8	2	2													2											
Aminoglycosides - Streptomycin	16	2	2														1	1									
Amphenicols - Chloramphenicol	16	2	2														1	1									
Amphenicols - Florfenicol	16	2	2														1	1									
Cephalosporins - Cefotaxime	0.25	2	2								2																
Fluoroquinolones - Ciprofloxacin	0.064	2	2				1		1																		
Penicillins - Ampicillin	8	2	2														2										
Quinolones - Nalidixic acid	16	2	2													2											
Tetracyclines - Tetracycline	8	2	2												1	1											
Trimethoprim	2	2	2										1	1													
Cephalosporins - Ceftazidime	0.5	2	2									2															
Polymyxins - Colistin	2	2	2												2												
Sulfonamides - Sulfamethoxazole	64	2	2																1						1		

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Spices and herbs - fresh - quantitative data [Dilution method]

E.coli, pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Spices and herbs - fresh	
	yes	
	2	
	lowest	highest
Aminoglycosides - Gentamicin	0.25	324
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Meat from bovine animals - quantitative data [Dilution method]

E.coli, pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Meat from bovine animals																											
		yes																											
		267																											
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	1024	2048	>4096			
Aminoglycosides - Gentamicin	2	267	267										46	168	48	4			1										
Aminoglycosides - Kanamycin	8	267	267													203	47	6				11							
Aminoglycosides - Streptomycin	16	267	267													5	174	55	3	4	4	22							
Amphenicols - Chloramphenicol	16	267	267													8	176	72	2	3	6								
Amphenicols - Florfenicol	16	267	267												1	14	218	32	1		1								
Cephalosporins - Cefotaxime	0.25	267	267							191	69	3		1	2	1													
Fluoroquinolones - Ciprofloxacin	0.064	267	267			9	174		70			5	3		1		3	2											
Penicillins - Ampicillin	8	267	267											1	30	167	36	2		31									
Quinolones - Nalidixic acid	16	267	267													245	10		1		11								
Tetracyclines - Tetracycline	8	207	207											7	15	113	34	3			3	32							
Trimethoprim	2	267	267										172	58	11	3				23									
Cephalosporins - Ceftazidime	0.5	267	267									234	27	2	2			1	1										
Polymyxins - Colistin	2	267	267												264	1	2												
Sulfonamides - Sulfamethoxazole	64	267	267														10	40	97	84	1				35				

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Meat from bovine animals - quantitative data [Dilution method]

E.coli, pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from bovine animals	
	yes	
	267	
	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Meat from pig - quantitative data [Dilution method]

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

E.coli, pathogenic, unspecified	Meat from pig																											
	yes																											
	156																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	155	155										28	86	33	6	1		1									
Aminoglycosides - Kanamycin	8	156	156													125	30	1										
Aminoglycosides - Streptomycin	16	156	156													2	73	39	4	7	10	21						
Amphenicols - Chloramphenicol	16	156	156													9	104	32	2		9							
Amphenicols - Florfenicol	16	156	156													17	119	18			2							
Cephalosporins - Cefotaxime	0.25	156	156							126	28			1			1											
Fluoroquinolones - Ciprofloxacin	0.064	156	156			11	102		37	1		1	3		1													
Penicillins - Ampicillin	8	156	156											5	26	80	15	1		29								
Quinolones - Nalidixic acid	16	156	156													143	8	1	1		3							
Tetracyclines - Tetracycline	8	137	137											5	45	52	2			5	28							
Trimethoprim	2	156	156										93	27	3	2				31								
Cephalosporins - Ceftazidime	0.5	156	156									142	13		1													
Polymyxins - Colistin	2	156	156												153	2	1											
Sulfonamides - Sulfamethoxazole	64	156	156														12	15	53	40					1	35		

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Meat from pig - quantitative data [Dilution method]

E.coli, pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from pig	
	yes	
	156	
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Meat from sheep (lamb) - quantitative data [Dilution method]

E.coli, pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory		Concentration (µg/ml), number of isolates with a concentration of inhibition equal to																											
		Meat from sheep (lamb)																											
		yes																											
		14																											
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	1024	2048	>4096			
Aminoglycosides - Gentamicin	2	14	14										2	11	1														
Aminoglycosides - Kanamycin	8	14	14													13						1							
Aminoglycosides - Streptomycin	16	14	14													1	6	4			1	1	1						
Amphenicols - Chloramphenicol	16	14	14														8	6											
Amphenicols - Florfenicol	16	14	14													1	9	4											
Cephalosporins - Cefotaxime	0.25	14	14							9	4	1																	
Fluoroquinolones - Ciprofloxacin	0.064	14	14			1	6		6					1															
Penicillins - Ampicillin	8	14	14												1	4	8			1									
Quinolones - Nalidixic acid	16	15	15													11	4												
Tetracyclines - Tetracycline	8	14	14												3	6	2			1	2								
Trimethoprim	2	14	14										11	2	1														
Cephalosporins - Ceftazidime	0.5	14	14									11	3																
Polymyxins - Colistin	2	14	14												13		1												
Sulfonamides - Sulfamethoxazole	64	14	14																8	3						3			

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Meat from sheep (lamb) - quantitative data [Dilution method]

E.coli, pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from sheep (lamb)	
	yes	
	14	
	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Meat from turkey - quantitative data [Dilution method]

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

E.coli, pathogenic, unspecified	Meat from turkey																											
	yes																											
	54																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	54	54										10	27	11	1		1	2	2								
Aminoglycosides - Kanamycin	8	54	54													26	13	1	1			13						
Aminoglycosides - Streptomycin	16	54	54													1	24	1	3	2	4	19						
Amphenicols - Chloramphenicol	16	54	54													3	35	5		3	8							
Amphenicols - Florfenicol	16	54	54													11	33	8			2							
Cephalosporins - Cefotaxime	0.25	54	54							25	24	3	1				1											
Fluoroquinolones - Ciprofloxacin	0.064	54	54				21		13		1		7	3			1	8										
Penicillins - Ampicillin	8	54	54													12	3			39								
Quinolones - Nalidixic acid	16	54	54													32	1	1	2	2	16							
Tetracyclines - Tetracycline	8	54	54											2	18	5				6	23							
Trimethoprim	2	54	54										31	4	1					18								
Cephalosporins - Ceftazidime	0.5	53	53									42	9	1					1									
Polymyxins - Colistin	2	54	54												39	6	9											
Sulfonamides - Sulfamethoxazole	64	54	54														1	3	12	11					27			

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Meat from turkey - quantitative data [Dilution method]

E.coli, pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Meat from turkey	
	yes	
	54	
	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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Meat from broilers (Gallus gallus) - Monitoring - quantitative data
[Dilution method]

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

E.coli, pathogenic, unspecified	Meat from broilers (Gallus gallus) - Monitoring																											
	yes																											
	476																											
	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	1024	2048	>4096		
Antimicrobials:																												
Aminoglycosides - Gentamicin	2	476	476								1	93	266	73	10	2	3	10	18									
Aminoglycosides - Kanamycin	8	476	476												326	100	15	4		1	30							
Aminoglycosides - Streptomycin	16	476	476												4	174	61	15	31	36	155							
Amphenicols - Chloramphenicol	16	476	476											1	34	299	75	7	19	41								
Amphenicols - Florfenicol	16	475	475												73	334	60	2	1	5								
Cephalosporins - Cefotaxime	0.25	476	476							301	114	10		1	3	2	45											
Fluoroquinolones - Ciprofloxacin	0.064	476	476			4	173		80	4	13	71	43	17	9	4	22	36										
Penicillins - Ampicillin	8	476	476											2	52	164	15	1		242								
Quinolones - Nalidixic acid	16	476	476													251	15	8	2	10	190							
Tetracyclines - Tetracycline	8	476	476											17	113	138	24		1	25	158							
Trimethoprim	2	476	476									222	92	9	3			1	149									
Cephalosporins - Ceftazidime	0.5	476	476									393	32	13	11	8	5	11	3									
Polymyxins - Colistin	2	476	476												454	8	14											
Sulfonamides - Sulfamethoxazole	64	476	476														20	22	92	120	3				219			

Table Antimicrobial susceptibility testing of E.coli, pathogenic, unspecified in Meat from broilers (Gallus gallus) - Monitoring - quantitative data
[Dilution method]

E.coli, pathogenic, unspecified	Meat from broilers (Gallus gallus) - Monitoring	
	yes	
	476	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory		
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 - Ceftazidime	0.25	16
Polymyxins - Colistin	2	4
Sulfonamides - Sulfamethoxazole	8	1024

Table Cut-off values for antibiotic resistance testing of *Escherichia coli*, pathogenic in Food

Test Method Used	Standard methods used for testing
Broth dilution	NCCLS/CLSI ISO 20776

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

Table Cut-off values for antibiotic resistance testing of *Escherichia coli*, pathogenic in Food

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Polymyxins	Colistin		2	

2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1 General evaluation of the national situation

2.5.2 Mycobacterium in animals

Table Tuberculosis in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Analytical Method	Sampling unit	Units tested	Total units positive for Mycobacterium	M. bovis	M. tuberculosis
Sheep	GD			animal sample > organ/tissue			Animal	336	0		
Goats	GD			animal sample > organ/tissue			Animal	199	8		
Pigs	GD			animal sample > organ/tissue			Animal	2786	0		

	Mycobacterium spp., unspecified
Sheep	
Goats	8
Pigs	

Table Tuberculosis in other animals

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			
Nederland	50990	3997013	50987	99.99	3	.01				80	3
Total : ¹⁾	50990	3997013	50987	99.99	3	.01	N.A.	0	0	80	3

Comments:

¹⁾ N.A.

2.6 BRUCELLOSIS

2.6.1 General evaluation of the national situation

2.6.2 Brucella in animals

Table Brucellosis in other animals

	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
Pigs	GD			animal sample > blood		Animal	5881	0			
	Brucella spp., unspecified										
Pigs											

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
Nederland	39856	1059691	39856	100	0	0	1340	16315	0	18	0	0	0	0
Total : ¹⁾	39856	1059691	39856	100	0	0	1340	16315	0	18	0	0	0	0

Comments:

¹⁾ N.A.

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

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

	Total number of existing bovine		Officially free herds		Infected herds		Surveillance						Investigations of suspect cases								
							Serological tests			Examination of bulk milk			Information about			Epidemiological investigation					
	Herds	Animals	Number of herds	%	Number of herds	%	Number of bovine herds tested	Number of animals tested	Number of infected herds	Number of bovine herds tested	Number of animals or pools tested	Number of infected herds	Number of notified abortions whatever cause	Number of isolations of Brucella infection	Number of abortions due to Brucella abortus	Number of animals tested with serological blood tests	Number of suspended herds	Number of positive animals		Number of animals examined microbio logically	Number of animals positive microbio logically
Region																		Sero logically	BST		
Nederland	50990	3997013	50990	100	0	0							11717			11717	26	26		10	0
Total : ¹⁾	50990	3997013	50990	100	0	0	0	0	0	0	0	0	11717	0	0	11717	26	26	0	10	0

Comments:

¹⁾ N.A.

2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

2.7.2 Yersinia in animals

Table Yersinia in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Yersinia	Y. enterocolitica	Y. pseudotuberculosis	Yersinia spp., unspecified
Birds - wild - Clinical investigations (post mortem)	VMDC			animal sample > organ/tissue	Domestic	Animal	33	2		2	
Cattle (bovine animals) - Farm - Monitoring	GD	Unspecified	Not applicable	animal sample > organ/tissue	Domestic	Animal	3055	5	1	4	
Goats - Farm - Monitoring	GD	Unspecified	Not applicable	animal sample > organ/tissue	Domestic	Animal	199	3		3	
Hares - Clinical investigations	VMDC			animal sample > organ/tissue	Domestic	Animal	19	9			9
Monkeys - Clinical investigations	VMDC			animal sample > organ/tissue		Animal	162	3			3
Other animals - wild - Clinical investigations	VMDC			animal sample > organ/tissue		Animal	207	4		4	
Pigs - Farm - Monitoring	GD	Unspecified	Not applicable	animal sample > organ/tissue	Domestic	Animal	2786	0			
Sheep - Farm - Monitoring	GD	Unspecified	Not applicable	animal sample > organ/tissue	Domestic	Animal	336	0			

Table Yersinia in animals

	Y. enterocolitica - O:3	Y. enterocolitica - O:9	Y. enterocolitica - unspecified
Birds - wild - Clinical investigations (post mortem)			
Cattle (bovine animals) - Farm - Monitoring			1
Goats - Farm - Monitoring			
Hares - Clinical investigations			
Monkeys - Clinical investigations			
Other animals - wild - Clinical investigations			
Pigs - Farm - Monitoring			
Sheep - Farm - Monitoring			

2.8 TRICHINELLOSIS

2.8.1 General evaluation of the national situation

2.8.2 Trichinella in animals

Table Trichinella in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Trichinella	T. spiralis	Trichinella spp., unspecified
Pigs - fattening pigs - raised under controlled housing conditions - Slaughterhouse - Surveillance	NVWA	Census	Official sampling	animal sample	Domestic	Animal	13827352	0	0	0
Solipeds, domestic - horses - Slaughterhouse - Surveillance	NVWA	Census	Official sampling	animal sample		Animal	4819	0	0	0
Foxes - Monitoring ¹⁾	RIVM	Unspecified	Official sampling	animal sample	Unknown	Animal	37	0	0	0
Rats - Monitoring ²⁾	RIVM	Unspecified	Official sampling	animal sample	Unknown	Animal	33	0	0	0
Wild boars - Hunting - Surveillance	RIVM	Unspecified	Official sampling	animal sample > blood	Unknown	Animal	410	0	0	0

Comments:

¹⁾ 15g, muscle, digestion

²⁾ 3-12g

2.9 ECHINOCOCCOSIS

2.9.1 General evaluation of the national situation

2.9.2 Echinococcus in animals

Table Echinococcus in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Region	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis
Foxes - Monitoring ¹⁾	RIVM	Unspecified		animal sample	Domestic	Animal	Zuid-Limburg	37	22	0	22
	Echinococcus spp., unspecified										
Foxes - Monitoring ¹⁾	0										

Comments:

¹⁾ carcass and feces

2.10 TOXOPLASMOSIS

2.10.1 General evaluation of the national situation

2.10.2 Toxoplasma in animals

Table Toxoplasma in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Analytical Method	Sampling unit	Units tested	Total units positive for Toxoplasma	T. gondii	Toxoplasma spp., unspecified
Sheep - Farm - Clinical investigations	GD	Unspecified	Not applicable	animal sample > blood	Domestic		Animal	31	17		17
Sheep - Farm - Monitoring	GD	Unspecified	Not applicable	animal sample > organ/tissue	Domestic		Animal	336	6	6	
Goats - Farm - Clinical investigations	GD	Unspecified	Not applicable	animal sample > blood	Domestic		Animal	10	2		2
Goats - Farm - Monitoring	GD	Unspecified	Not applicable	animal sample > organ/tissue	Domestic		Animal	199	4	4	
Dogs - Clinical investigations	VMDC			animal sample > blood		ELISA	Animal	71	11	11	
Cats - Clinical investigations	VMDC			animal sample > blood		ELISA	Animal	24	2	2	
Rats - wild - Unknown - Unspecified	RIVM		Official sampling	animal sample > blood	Unknown	Modified agglutination test (MAT)	Animal	53	2		2

Table Toxoplasma in animals

2.11.1 General evaluation of the national situation

2.11.2 Lyssavirus (rabies) in animals

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Bats - wild - Monitoring	0	0

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Foxes - wild - Monitoring		
Cats - pet animals		
Dogs - pet animals		
Other animals		

2.12 STAPHYLOCOCCUS INFECTION

2.12.1 General evaluation of the national situation

2.12.2 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) - meat production animals - Slaughterhouse - Monitoring	NVWA	Objective sampling		animal sample > nasal swab		Herd		96	69	69	
Pigs - fattening pigs - Slaughterhouse - Monitoring	NVWA	Objective sampling		animal sample > nasal swab		Herd		93	91	91	
Birds - pet animals - Clinical investigations	VMDC			animal sample		Animal		4	0		
Cats - pet animals - Clinical investigations	VMDC			animal sample		Animal		41	1	1	
Cattle (bovine animals) - Clinical investigations	VMDC			animal sample		Animal		8	0		
Dogs - pet animals - Clinical investigations	VMDC			animal sample		Animal		67	15	15	
Pigs - Clinical investigations	VMDC			animal sample		Animal		2	1	1	
Sheep - Clinical investigations	VMDC			animal sample		Animal		1	0		
Solipeds, domestic - horses - Clinical investigations	VMDC			animal sample		Animal		55	24	24	

Table Staphylococcus in Animals

	S. aureus, meticillin resistant (MRSA) - spa -type t108	S. aureus, meticillin resistant (MRSA) - spa -type t034	S. aureus, meticillin resistant (MRSA) - MRSA, unspecified
Cattle (bovine animals) - meat production animals - Slaughterhouse - Monitoring			69
Pigs - fattening pigs - Slaughterhouse - Monitoring			91
Birds - pet animals - Clinical investigations			
Cats - pet animals - Clinical investigations			1
Cattle (bovine animals) - Clinical investigations			
Dogs - pet animals - Clinical investigations			15
Pigs - Clinical investigations			1
Sheep - Clinical investigations			
Solipeds, domestic - horses - Clinical investigations			24

2.13 Q-FEVER

2.13.1 General evaluation of the national situation

2.13.2 Coxiella (Q-fever) in animals

Table Coxiella burnetii (Q fever) in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Analytical Method	Sampling unit	Units tested	Total units positive for Coxiella (Q-fever)	C. burnetii	No of clinically affected herds
Cattle (bovine animals) - Farm - Clinical investigations	GD	Unspecified	Not applicable	animal sample > organ/tissue	Domestic	Immuno Histo Chemistry (ICH)	Animal	430	3	3	
Sheep - Farm - Monitoring	GD	Unspecified	Not applicable	animal sample > organ/tissue	Domestic		Animal	336	0		
Goats - Farm - Monitoring	GD	Unspecified	Not applicable	animal sample > organ/tissue	Domestic		Animal	199	0		
Goats - Farm - Monitoring (bulk milk)	GD	Unspecified	Not applicable		Domestic		Herd	335	17	17	
Sheep - Farm - Monitoring (bulk milk)	GD	Unspecified	Not applicable		Domestic		Herd	30	0		

2.14 WEST NILE VIRUS INFECTIONS

2.14.1 General evaluation of the national situation

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

3.1.2 Antimicrobial resistance in Escherichia coli, non-pathogenic

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Cattle (bovine animals) - dairy cows - Monitoring

Escherichia coli, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	E.coli, non-pathogenic, unspecified	
	yes	
	271	
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	271	0
Aminoglycosides - Kanamycin	271	3
Aminoglycosides - Streptomycin	271	3
Amphenicols - Chloramphenicol	271	0
Amphenicols - Florfenicol	271	0
Cephalosporins - Cefotaxime	271	0
Fluoroquinolones - Ciprofloxacin	271	0
Penicillins - Ampicillin	271	2
Quinolones - Nalidixic acid	271	0
Tetracyclines - Tetracycline	271	7
Trimethoprim	271	0
Cephalosporins - Ceftazidime	271	0
Fully sensitive	271	261

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Cattle (bovine animals) - dairy cows - Monitoring

Escherichia coli, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	E.coli, non-pathogenic, unspecified	
	yes	
	271	
	N	n
Resistant to 1 antimicrobial	271	6
Resistant to 2 antimicrobials	271	1
Resistant to 3 antimicrobials	271	2
Resistant to 4 antimicrobials	271	1
Resistant to >4 antimicrobials	271	0
Sulfonamides - Sulfamethoxazole	271	3

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Cattle (bovine animals) - calves (under 1 year) - veal calves

Escherichia coli, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	E.coli, non-pathogenic, unspecified	
	yes	
	317	
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	317	5
Aminoglycosides - Kanamycin	317	26
Aminoglycosides - Streptomycin	317	93
Amphenicols - Chloramphenicol	317	43
Amphenicols - Florfenicol	317	17
Cephalosporins - Cefotaxime	317	1
Fluoroquinolones - Ciprofloxacin	317	27
Penicillins - Ampicillin	317	79
Quinolones - Nalidixic acid	317	28
Tetracyclines - Tetracycline	317	153
Trimethoprim	317	75
Cephalosporins - Ceftazidime	317	0
Fully sensitive	317	159
Resistant to 1 antimicrobial	317	29
Resistant to 2 antimicrobials	317	21
Resistant to 3 antimicrobials	317	22
Resistant to 4 antimicrobials	317	24
Resistant to >4 antimicrobials	317	62

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Cattle (bovine animals) - calves (under 1 year) - veal calves

Escherichia coli, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	E.coli, non-pathogenic, unspecified	
	yes	
	317	
Antimicrobials:	N	n
Sulfonamides - Sulfamethoxazole	317	101

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Gallus gallus (fowl) - broilers - Monitoring

Escherichia coli, non-pathogenic	E.coli, non-pathogenic, unspecified	
	yes	
	494	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory		
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	494	23
Aminoglycosides - Kanamycin	494	27
Aminoglycosides - Streptomycin	494	209
Amphenicols - Chloramphenicol	494	50
Amphenicols - Florfenicol	494	4
Cephalosporins - Cefotaxime	494	13
Fluoroquinolones - Ciprofloxacin	494	208
Penicillins - Ampicillin	494	210
Quinolones - Nalidixic acid	494	205
Tetracyclines - Tetracycline	494	177
Trimethoprim	494	151
Cephalosporins - Ceftazidime	494	13
Fully sensitive	494	143
Resistant to 1 antimicrobial	494	82
Resistant to 2 antimicrobials	494	53
Resistant to 3 antimicrobials	494	36
Resistant to 4 antimicrobials	494	58
Resistant to >4 antimicrobials	494	122
Sulfonamides - Sulfamethoxazole	494	187

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Gallus gallus (fowl) - broilers - Monitoring

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Pigs - fattening pigs - unspecified - Slaughterhouse - Monitoring - EFSA specifications - Unspecified - Not applicable - animal sample - faeces

Escherichia coli, non-pathogenic	E.coli, non-pathogenic, unspecified	
	yes	
	289	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory		
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	289	2
Aminoglycosides - Kanamycin	289	4
Aminoglycosides - Streptomycin	289	145
Amphenicols - Chloramphenicol	289	30
Amphenicols - Florfenicol	289	5
Cephalosporins - Cefotaxime	289	5
Fluoroquinolones - Ciprofloxacin	289	0
Penicillins - Ampicillin	289	68
Quinolones - Nalidixic acid	289	0
Tetracyclines - Tetracycline	289	152
Trimethoprim	289	110
Cephalosporins - Ceftazidime	289	4
Fully sensitive	289	89
Resistant to 1 antimicrobial	289	37
Resistant to 2 antimicrobials	289	48
Resistant to 3 antimicrobials	289	37
Resistant to 4 antimicrobials	289	30
Resistant to >4 antimicrobials	289	48

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Pigs - fattening pigs - unspecified - Slaughterhouse - Monitoring - EFSA specifications - Unspecified - Not applicable - animal sample - faeces

Escherichia coli, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	E.coli, non-pathogenic, unspecified	
	yes	
	289	
Antimicrobials:	N	n
Sulfonamides - Sulfamethoxazole	289	125

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Pigs - fattening pigs - Monitoring - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified	Pigs - fattening pigs - Monitoring																											
	yes																											
	289																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	289	2									2	140	122	23	2												
Aminoglycosides - Kanamycin	8	289	4													259	26	2				2						
Aminoglycosides - Streptomycin	16	289	145													23	95	26	20	27	41	57						
Amphenicols - Chloramphenicol	16	289	30												1	30	198	30	6	9	15							
Amphenicols - Florfenicol	16	289	5												5	39	216	24	4		1							
Cephalosporins - Cefotaxime	0.25	289	5							242	40	2	1				4											
Fluoroquinolones - Ciprofloxacin	0.064	289	0				241	48																				
Penicillins - Ampicillin	8	289	68											6	67	135	13			68								
Quinolones - Nalidixic acid	16	289	0													279	8	2										
Tetracyclines - Tetracycline	8	289	152											21	80	35	1	5	1	30	116							
Trimethoprim	2	289	110										170	9						110								
Cephalosporins - Ceftazidime	0.5	289	4									276	9	2	2													
Sulfonamides - Sulfamethoxazole	64	289	125														163	1						11	114			

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Pigs - fattening pigs - Monitoring - quantitative data [Dilution method]

E.coli, non-pathogenic, unspecified	Pigs - fattening pigs - Monitoring	
	yes	
	289	
	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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - dairy cows - Monitoring - 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) - dairy cows - Monitoring																											
	yes																											
	271																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	271	0									3	136	119	13													
Aminoglycosides - Kanamycin	8	271	3													255	13	3										
Aminoglycosides - Streptomycin	16	271	3													47	203	18		2		1						
Amphenicols - Chloramphenicol	16	271	0													20	215	36										
Amphenicols - Florfenicol	16	271	0													37	219	15										
Cephalosporins - Cefotaxime	0.25	271	0							214	54	3																
Fluoroquinolones - Ciprofloxacin	0.064	271	0				219	51	1																			
Penicillins - Ampicillin	8	271	2											9	56	186	18			2								
Quinolones - Nalidixic acid	16	271	0													264	5	2										
Tetracyclines - Tetracycline	8	271	7											19	125	119	1			1	6							
Trimethoprim	2	271	0										253	18														
Cephalosporins - Ceftazidime	0.5	271	0									259	12															
Sulfonamides - Sulfamethoxazole	64	271	3														268								3			

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - dairy cows - Monitoring - quantitative data [Dilution method]

E.coli, non-pathogenic, unspecified	Cattle (bovine animals) - dairy cows - Monitoring	
	yes	
	271	
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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - calves (under 1 year) - veal calves - Monitoring - 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) - calves (under 1 year) - veal calves - Monitoring																											
	yes																											
	317																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	317	5										153	133	26			1	2	2								
Aminoglycosides - Kanamycin	8	317	26													274	17	2				24						
Aminoglycosides - Streptomycin	16	317	93													31	165	28	5	17	16	55						
Amphenicols - Chloramphenicol	16	317	43													26	218	30	5	2	36							
Amphenicols - Florfenicol	16	317	17												1	41	237	21	1		16							
Cephalosporins - Cefotaxime	0.25	317	1							258	54	4			1													
Fluoroquinolones - Ciprofloxacin	0.064	317	27				241		47	2	3	13	4	2			1	4										
Penicillins - Ampicillin	8	317	79											3	48	167	20			79								
Quinolones - Nalidixic acid	16	317	28													278	8	3		1	27							
Tetracyclines - Tetracycline	8	317	153											18	77	65	4		5	25	123							
Trimethoprim	2	317	75										226	16						75								
Cephalosporins - Ceftazidime	0.5	317	0									301	16															
Sulfonamides - Sulfamethoxazole	64	317	101														214	2						1	100			

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - calves (under 1 year) - veal calves -
Monitoring - quantitative data [Dilution method]

E.coli, non-pathogenic, unspecified	Cattle (bovine animals) - calves (under 1 year) - veal calves - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	yes	
	Number of isolates available in the laboratory	
	317	
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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Gallus gallus (fowl) - broilers - Monitoring - 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) - broilers - Monitoring																											
	yes																											
	494																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	2	494	23									3	216	215	37	3	4	9	5	2								
Aminoglycosides - Kanamycin	8	494	27													438	29	7				20						
Aminoglycosides - Streptomycin	16	494	223													35	204	32	14	44	33	132						
Amphenicols - Chloramphenicol	16	494	50													42	339	63	7	14	29							
Amphenicols - Florfenicol	16	494	4												1	61	368	60	4									
Cephalosporins - Cefotaxime	0.25	494	13							381	99	1				1	12											
Fluoroquinolones - Ciprofloxacin	0.064	494	208				223		59	4	13	130	41	8	2	1	7	6										
Penicillins - Ampicillin	8	494	210										1	4	87	175	17			210								
Quinolones - Nalidixic acid	16	494	205													271	11	7	3	27	175							
Tetracyclines - Tetracycline	8	494	177											34	157	122	4		1	21	155							
Trimethoprim	2	494	151										308	32	3					151								
Cephalosporins - Ceftazidime	0.5	494	13									465	16	1	2		2	4	4									
Sulfonamides - Sulfamethoxazole	64	494	187														305	2				1	1	6	179			

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Gallus gallus (fowl) - broilers - Monitoring - quantitative data
[Dilution method]

E.coli, non-pathogenic, unspecified	Gallus gallus (fowl) - broilers - Monitoring	
	Isolates out of a monitoring program (yes/no)	
	Number of isolates available in the laboratory	
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 - Ceftazidime		
Sulfonamides - Sulfamethoxazole		

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

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	16	
Amphenicols	Chloramphenicol	EFSA	16	
	Florfenicol		16	
Cephalosporins	Cefotaxime	EFSA	0.25	
	Ceftazidime	EFSA	0.5	
Fluoroquinolones	Ciprofloxacin	EFSA	0.064	
Penicillins	Ampicillin	EFSA	8	
Quinolones	Nalidixic acid	EFSA	16	
Sulfonamides	Sulfonamides	EFSA	256	
	Sulfamethoxazole	EFSA	64	
Tetracyclines	Tetracycline	EFSA	8	

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Trimethoprim	Trimethoprim	EFSA	2	

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

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

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

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Test Method Used		Standard methods used for testing		

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

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

3.2 ENTEROCOCCUS, NON-PATHOGENIC

3.2.1 General evaluation of the national situation

3.2.2 Antimicrobial resistance in Enterococcus, non-pathogenic isolates

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Gallus gallus (fowl) - broilers - Monitoring - animal sample

Enterococcus, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	E. faecalis		E. faecium	
	yes		yes	
	266		423	
	N	n	N	n
Fully sensitive	266	30	423	62
Resistant to 1 antimicrobial	266	61	423	91
Resistant to 2 antimicrobials	266	71	423	88
Resistant to 3 antimicrobials	266	100	423	72
Resistant to 4 antimicrobials	266	3	423	80
Resistant to >4 antimicrobials	266	1	423	30

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Meat from pig

Enterococcus, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	E. faecalis	
	yes	
	15	
	N	n
Antimicrobials:		
Aminoglycosides - Gentamicin	15	1
Aminoglycosides - Streptomycin	15	2
Amphenicols - Chloramphenicol	15	0
Amphenicols - Florfenicol	15	1
Fluoroquinolones - Ciprofloxacin	15	0
Penicillins - Ampicillin	15	0
Fully sensitive	15	4
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	15	0
Ionophores - Salinomycin	15	0
Macrolides - Erythromycin	15	1
Oxazolidines - Linezolid	15	0
Resistant to 1 antimicrobial	15	7
Resistant to 2 antimicrobials	15	2
Resistant to 3 antimicrobials	15	1
Resistant to 4 antimicrobials	15	0
Resistant to >4 antimicrobials	15	1
Streptogramins - Quinupristin/Dalfopristin	15	10

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Meat from pig

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Meat from turkey - Monitoring - food sample

Enterococcus, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	E. faecalis		E. faecium	
	yes		yes	
	12		11	
	N	n	N	n
Aminoglycosides - Gentamicin	11	0	11	0
Aminoglycosides - Streptomycin	11	1	11	1
Amphenicols - Chloramphenicol	11	3	11	0
Amphenicols - Florfenicol	11	0	11	0
Fluoroquinolones - Ciprofloxacin	11	0	11	2
Penicillins - Ampicillin	11	0	11	2
Tetracyclines - Tetracycline	11	8	11	9
Fully sensitive	11	1		0
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	11	0	11	0
Ionophores - Salinomycin	11	0	11	0
Macrolides - Erythromycin	11	5	11	7
Oxazolidines - Linezolid	11	0	11	0
Resistant to 1 antimicrobial	11	2		
Resistant to 2 antimicrobials	11	3		
Resistant to 3 antimicrobials	11	2		
Resistant to 4 antimicrobials	11	2		0
Resistant to >4 antimicrobials	11	1		0
Streptogramins - Quinupristin/Dalfopristin	11	10	11	0

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Meat from turkey - Monitoring - food sample

Footnote:

E. faecium

resistant 10 1 antimicrobial n=3

resistant to 2 antimicrobials n=6

resistant tot 3 antimicrobials n=2

It isn't possible to save this data in the tabel

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Meat from broilers (Gallus gallus) - Monitoring - food sample

Enterococcus, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	E. faecalis		E. faecium	
	yes		yes	
	221		75	
	N	n	N	n
Aminoglycosides - Gentamicin	221	5	75	2
Aminoglycosides - Streptomycin	221	88	75	19
Amphenicols - Chloramphenicol	221	1	75	0
Amphenicols - Florfenicol	221	0	75	2
Fluoroquinolones - Ciprofloxacin	221	6	75	18
Penicillins - Ampicillin	221	1	75	10
Tetracyclines - Tetracycline	221	166	75	30
Fully sensitive	221	13	75	22
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	221	0	75	0
Macrolides - Erythromycin	221	114	75	33
Oxazolidines - Linezolid	221	0	75	1
Resistant to 1 antimicrobial	221	38	75	18
Resistant to 2 antimicrobials	221	57	75	19
Resistant to 3 antimicrobials	221	35	75	7
Resistant to 4 antimicrobials	221	71	75	4
Resistant to >4 antimicrobials	221	7	75	5
Streptogramins - Quinupristin/Dalfopristin	221	195	75	3

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Meat from broilers (Gallus gallus) - Monitoring - food sample

Table Antimicrobial susceptibility testing of E. faecalis in Gallus gallus (fowl) - broilers - Monitoring - animal sample - quantitative data [Dilution method]

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

E. faecalis	Gallus gallus (fowl) - broilers - Monitoring																											
	yes																											
	266																											
	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	266	6													1	60	195	4			2	1			3		
Aminoglycosides - Streptomycin	512	266	113																16	128	9						113	
Amphenicols - Chloramphenicol	32	266	3													33	228	1	1	1	2							
Amphenicols - Florfenicol	8	266	0											1	102	162	1											
Fluoroquinolones - Ciprofloxacin	4	266	7										37	202	18	2		2	4	1								
Penicillins - Ampicillin	4	342	0											177	89	76												
Tetracyclines - Tetracycline	4	266	214										39	13				1	70	60	83							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	266	0											178	65	23												
Ionophores - Salinomycin	4	266	15										11	90	23	127	15											
Macrolides - Erythromycin	4	266	183											47	27	9	6	14	5	4	1	153						
Oxazolidines - Linezolid	4	291	0											104	162	25												
Streptogramins - Quinupristin/Dalfopristin	32	266	1										3	1		3	62	188	8	1								

E. faecalis	Gallus gallus (fowl) - broilers - Monitoring	
	yes	
	266	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin		

Table Antimicrobial susceptibility testing of *E. faecalis* in *Gallus gallus* (fowl) - broilers - Monitoring - animal sample - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - Monitoring	
	yes	
	266	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Amphenicols - Florfenicol		
Fluoroquinolones - Ciprofloxacin		
Penicillins - Ampicillin		
Tetracyclines - Tetracycline		
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin		
Ionophores - Salinomycin		
Macrolides - Erythromycin		
Oxazolidines - Linezolid		
Streptogramins - Quinupristin/Dalfopristin		

Table Antimicrobial susceptibility testing of E. faecalis in Meat from bovine animals - quantitative data [Dilution method]

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

E. faecalis	Meat from bovine animals																										
	yes																										
	5																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	32	5	1														1	3							1		
Aminoglycosides - Streptomycin	512	5	0																	1	4						
Amphenicols - Chloramphenicol	32	5	1														4			1							
Amphenicols - Florfenicol	8	5	5													5											
Fluoroquinolones - Ciprofloxacin	4	5	1											3	1					1							
Penicillins - Ampicillin	4	5	0											2	3												
Tetracyclines - Tetracycline	4	5	2											3							2						
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	5	0											1	3	1											
Ionophores - Salinomycin	8	5	5											5													
Macrolides - Erythromycin	4	5	1											3		1						1					
Oxazolidines - Linezolid	4	5	0												5												
Streptogramins - Quinupristin/Dalfopristin	8	5	5														1	3	1								

E. faecalis	Meat from bovine animals	
	yes	
	5	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. faecalis* in Meat from bovine animals - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from bovine animals	
	yes	
	5	
Antimicrobials:	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. faecium in Gallus gallus (fowl) - broilers - Monitoring - animal sample - quantitative data [Dilution method]

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

E. faecium	Gallus gallus (fowl) - broilers - Monitoring																											
	yes																											
	423																											
	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	423	7													19	188	195	14							7		
Aminoglycosides - Streptomycin	128	423	126															1	15	247	34	4	4	12	106			
Amphenicols - Chloramphenicol	32	423	0												1	47	306	31	38									
Amphenicols - Florfenicol	8	423	0											1	47	365	10											
Fluoroquinolones - Ciprofloxacin	4	423	53										3	41	87	239	52		1									
Penicillins - Ampicillin	4	423	91											141	115	76	74		1	1	7	8						
Tetracyclines - Tetracycline	4	423	227										194	1		1	1	12	6	75	133							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	423	0										226	176	17	4												
Ionophores - Salinomycin	4	423	163										1	64	33	162	163											
Macrolides - Erythromycin	4	423	200											178	36	9	2	5	3			190						
Oxazolidines - Linezolid	4	423	0											26	372	25												
Streptogramins - Quinupristin/Dalfopristin	1	423	306										31	86	74	172	57	2	1									

E. faecium	Gallus gallus (fowl) - broilers - Monitoring	
	yes	
	423	
	lowest	highest
Antimicrobials:		
Aminoglycosides - Gentamicin		

Table Antimicrobial susceptibility testing of *E. faecium* in Gallus gallus (fowl) - broilers - Monitoring - animal sample - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - Monitoring	
	yes	
	423	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin		
Amphenicols - Chloramphenicol		
Amphenicols - Florfenicol		
Fluoroquinolones - Ciprofloxacin		
Penicillins - Ampicillin		
Tetracyclines - Tetracycline		
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin		
Ionophores - Salinomycin		
Macrolides - Erythromycin		
Oxazolidines - Linezolid		
Streptogramins - Quinupristin/Dalfopristin		

Table Antimicrobial susceptibility testing of E. faecium in Meat from bovine animals - quantitative data [Dilution method]

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

E. faecium	Meat from bovine animals																										
	yes																										
	10																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	32	10	1												2	3	3	1							1		
Aminoglycosides - Streptomycin	128	10	1																2	6	1					1	
Amphenicols - Chloramphenicol	32	10	1														9			1							
Amphenicols - Florfenicol	8	10	10													9				1							
Fluoroquinolones - Ciprofloxacin	4	10	0											1	3	6											
Penicillins - Ampicillin	4	10	0												10												
Tetracyclines - Tetracycline	4	10	1										5	4							1						
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	10	0										6	4													
Ionophores - Salinomycin	8	10	10											6	4												
Macrolides - Erythromycin	4	9	2											3	1	3	2										
Oxazolidines - Linezolid	4	10	1												3	6	1										
Streptogramins - Quinupristin/Dalfopristin	8	10	6											4		4	2										

E. faecium	Meat from bovine animals	
	yes	
	10	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. faecium* in Meat from bovine animals - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from bovine animals	
	yes	
	10	
Antimicrobials:	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. faecalis in Meat from pig - quantitative data [Dilution method]

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

E. faecalis	Meat from pig																											
	yes																											
	15																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	32	15	1													1	2	11				1						
Aminoglycosides - Streptomycin	512	15	2																	5	6	2				2		
Amphenicols - Chloramphenicol	32	15	0														14	1										
Amphenicols - Florfenicol	8	15	15												1	13					1							
Fluoroquinolones - Ciprofloxacin	4	15	0											6	9													
Penicillins - Ampicillin	4	15	0											10	5													
Tetracyclines - Tetracycline	4	15	4										7	4							1	3						
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	15	0											6	5	4												
Ionophores - Salinomycin	8	15	15										1	13	1													
Macrolides - Erythromycin	4	15	1											11	3							1						
Oxazolidines - Linezolid	4	15	0												15													
Streptogramins - Quinupristin/Dalfopristin	8	15	15										1		1	1	2	9	1									

E. faecalis	Meat from pig	
	yes	
	15	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. faecalis* in Meat from pig - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from pig	
	yes	
	15	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin		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 Meat from turkey - quantitative data [Dilution method]

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

E. faecalis	Meat from turkey																										
	yes																										
	12																										
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	1024	2048	>4096	
Aminoglycosides - Gentamicin	32	11	0													1	7	3									
Aminoglycosides - Streptomycin	512	11	1																1	3	6					1	
Amphenicols - Chloramphenicol	32	11	3														8			2	1						
Amphenicols - Florfenicol	8	11	0												1	10											
Fluoroquinolones - Ciprofloxacin	4	11	0										1	10													
Penicillins - Ampicillin	4	12	1											7	4						1						
Tetracyclines - Tetracycline	4	11	8										1	2					1	2	5						
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	11	0											5	3	3											
Ionophores - Salinomycin	8	11	0											7	3	1											
Macrolides - Erythromycin	4	11	5											2	1	3						5					
Oxazolidines - Linezolid	4	11	0												9	2											
Streptogramins - Quinupristin/Dalfopristin	8	11	10													1		8	2								

E. faecalis	Meat from turkey	
	yes	
	12	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. faecalis* in Meat from turkey - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from turkey	
	yes	
	12	
Antimicrobials:	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. faecium in Meat from turkey - quantitative data [Dilution method]

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

E. faecium	Meat from turkey																											
	yes																											
	10																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	32	11	0													1	5	5										
Aminoglycosides - Streptomycin	128	11	1																2	7	1				1			
Amphenicols - Chloramphenicol	32	11	0														7	2	2									
Amphenicols - Florfenicol	8	11	0													11												
Fluoroquinolones - Ciprofloxacin	4	11	2											1	2	6	2											
Penicillins - Ampicillin	4	11	2											4	5					1	1							
Tetracyclines - Tetracycline	4	11	9										2							1	8							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	11	0										6	4	1													
Ionophores - Salinomycin	8	11	0												6	1	4											
Macrolides - Erythromycin	4	11	7											2		2	1					6						
Oxazolidines - Linezolid	4	11	0												7	4												
Streptogramins - Quinupristin/Dalfopristin	8	11	0											4	4	3												

E. faecium	Meat from turkey	
	yes	
	10	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. faecium* in Meat from turkey - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from turkey	
	yes	
	10	
Antimicrobials:	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. faecalis in Meat from broilers (Gallus gallus) - quantitative data [Dilution method]

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

E. faecalis	Meat from broilers (Gallus gallus)																											
	yes																											
	224																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	32	221	5													2	90	120	4		1			4				
Aminoglycosides - Streptomycin	512	221	82																	31	102	6		1	81			
Amphenicols - Chloramphenicol	32	221	1													2	182	35	1		1							
Amphenicols - Florfenicol	8	221	0											1	11	207	2											
Fluoroquinolones - Ciprofloxacin	4	221	6										11	137	56	11	3	1	1	1								
Penicillins - Ampicillin	4	221	1											119	98	3						1						
Tetracyclines - Tetracycline	4	221	166										24	29	2				25	91	50							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	221	0										4	82	79	56												
Ionophores - Salinomycin	8	221	0										8	87	21	87	18											
Macrolides - Erythromycin	4	221	114											61	29	17	1	3	3	2	5	100						
Oxazolidines - Linezolid	4	221	0											7	196	18												
Streptogramins - Quinupristin/Dalfopristin	8	221	195										1	2	5	2	16	144	46	5								

E. faecalis	Meat from broilers (Gallus gallus)	
	yes	
	224	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. faecalis* in Meat from broilers (*Gallus gallus*) - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>)	
	yes	
	224	
Antimicrobials:	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	0.5	32
Streptogramins - Quinupristin/Dalfopristin	0.5	32

Table Antimicrobial susceptibility testing of E. faecium in Meat from broilers (Gallus gallus) - quantitative data [Dilution method]

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

E. faecium	Meat from broilers (Gallus gallus)																											
	yes																											
	72																											
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	1024	2048	>4096		
Aminoglycosides - Gentamicin	32	75	2													3	34	30	6						2			
Aminoglycosides - Streptomycin	128	75	19																5	44	7			1	4	14		
Amphenicols - Chloramphenicol	32	75	0													3	52	14	6									
Amphenicols - Florfenicol	8	75	2												3	65	5	1		1								
Fluoroquinolones - Ciprofloxacin	4	75	18										4	5	11	37	14	3			1							
Penicillins - Ampicillin	4	75	10											27	34	4	1	1	3		3	2						
Tetracyclines - Tetracycline	4	75	30										35	10					1	6	23							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	75	0										37	23	5	10												
Ionophores - Salinomycin	8	75	2											8	18	17	30	2										
Macrolides - Erythromycin	4	75	33											12	14	16	7	1			1	24						
Oxazolidines - Linezolid	4	75	1												38	36	1											
Streptogramins - Quinupristin/Dalfopristin	8	75	3											20	8	32	12	1	2									

E. faecium	Meat from broilers (Gallus gallus)	
	yes	
	72	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	4	512

Table Antimicrobial susceptibility testing of *E. faecium* in Meat from broilers (*Gallus gallus*) - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>)	
	yes	
	72	
Antimicrobials:	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 Cut-off values for antibiotic resistance of *E. faecalis* in Animals

Test Method Used		Standard methods used for testing		
Broth dilution		NCCLS/CLSI		

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	32	
	Streptomycin	EFSA	512	
Amphenicols	Chloramphenicol	EFSA	32	
	Florfenicol		8	
Fluoroquinolones	Ciprofloxacin	EFSA	4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin	EFSA	4	
Macrolides	Erythromycin	EFSA	4	
Oxazolidines	Linezolid	EFSA	4	
Penicillins	Ampicillin	EFSA	4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline	EFSA	4	
Ionophores	Salinomycin		4	

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

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

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

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

Test Method Used		Standard methods used for testing		
Broth dilution		NCCLS/CLSI ISO 20776		

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	32	
	Streptomycin	EFSA	512	
Amphenicols	Chloramphenicol	EFSA	32	
	Florfenicol		8	
Fluoroquinolones	Ciprofloxacin	EFSA	4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin	EFSA	4	
Macrolides	Erythromycin	EFSA	4	
Oxazolidines	Linezolid	EFSA	4	
Penicillins	Ampicillin	EFSA	4	
Streptogramins	Quinupristin/Dalfopristin		8	
Tetracyclines	Tetracycline	EFSA	4	
Ionophores	Salinomycin		8	

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

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

Test Method Used		Standard methods used for testing		
Broth dilution		NCCLS/CLSI		

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	32	
	Streptomycin	EFSA	128	
Amphenicols	Chloramphenicol	EFSA	32	
	Florfenicol		8	
Fluoroquinolones	Ciprofloxacin	EFSA	4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin	EFSA	4	
Macrolides	Erythromycin	EFSA	4	
Oxazolidines	Linezolid	EFSA	4	
Penicillins	Ampicillin	EFSA	4	
Streptogramins	Quinupristin/Dalfopristin	EFSA	1	
Tetracyclines	Tetracycline	EFSA	4	
Ionophores	Salinomycin		4	

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

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

Test Method Used	Standard methods used for testing

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

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

Test Method Used		Standard methods used for testing		
			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	32	
	Streptomycin	EFSA	128	
Amphenicols	Chloramphenicol	EFSA	32	
	Florfenicol		8	
Fluoroquinolones	Ciprofloxacin	EFSA	4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin	EFSA	4	
Macrolides	Erythromycin	EFSA	4	
Oxazolidines	Linezolid	EFSA	4	
Penicillins	Ampicillin	EFSA	4	
Streptogramins	Quinupristin/Dalfopristin	NON-EFSA	8	
Tetracyclines	Tetracycline	EFSA	4	
Ionophores	Salinomycin		8	

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

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 CRONOBACTER

4.1.1 General evaluation of the national situation

4.2 HISTAMINE

4.2.1 General evaluation of the national situation

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

4.3.2 Staphylococcal enterotoxins in foodstuffs

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 pasteurised milk - Processing plant - Surveillance	NVWA	Suspect sampling		food sample	Domestic	Single	25g	2	0
Cheeses made from cows' milk - hard - made from pasteurised milk - Processing plant - Surveillance	NVWA	Suspect sampling		food sample	Domestic	Single	25g	2	0
Crustaceans	NVWA	Suspect sampling		food sample	Domestic	Single	25g	6	0

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
Fish - smoked (heated, ready to eat)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	20	0
Fishery products, unspecified	NVWA	Suspect sampling		food sample	Domestic	Single	25g	4	0
Meat from bovine animals (raw meat)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	2	0
Meat from bovine animals (ready-to-eat)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	4	0
Meat from broilers (Gallus gallus) (broiler meat dishes)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	16	0
Meat from broilers (Gallus gallus) (raw meat)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	4	0
Meat from pig (raw meat)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	2	0
Meat from pig (ready-to-eat)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	5	0
Other food (mixed dishes)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	8	0
Other food (other meat dishes)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	49	0
Other food (pizza)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	4	0
Other food (rice, pasta dishes)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	52	0
Other food (sauces)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	11	0
Other food (wraps)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	5	0
Vegetables (salad)	NVWA	Suspect sampling		food sample	Domestic	Single	25g	8	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.

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	1	2	0	0	0	1
Salmonella - S. Enteritidis	2	5	1	0	0	2
Salmonella - Other serovars	0	unknown	unknown	unknown	0	0
Campylobacter	17	89	1	0	1	18
Listeria - Listeria monocytogenes	1	2	unknown	unknown	0	1
Listeria - Other Listeria	0	unknown	unknown	unknown	0	0
Yersinia	0	unknown	unknown	unknown	0	0
Escherichia coli, pathogenic - Verotoxigenic E. coli (VTEC)	1	2	unknown	unknown	0	1
Bacillus - B. cereus	10	22	unknown	0	3	13
Bacillus - Other Bacillus	0	unknown	unknown	unknown	0	0
Staphylococcal enterotoxins	5	133	0	0	0	5
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	1	3	0	0	0	1
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	11	197	0	0	4	15
Viruses - Hepatitis viruses	1	3	unknown	unknown	0	1
Viruses - Other Viruses	0	unknown	unknown	unknown	0	0
Other agents - Histamine	0	unknown	unknown	unknown	0	0
Other agents - Marine biotoxins	0	unknown	unknown	unknown	0	0
Other agents - Other Agents	0	unknown	unknown	unknown	0	0

Unknown agent	Weak evidence or no vehicle outbreaks				Strong evidence Number of Outbreaks	Total number of outbreaks
	Number of outbreaks	Human cases	Hospitalized	Deaths		
	233	984	4	0	0	233

Table Foodborne Outbreaks: detailed data for Bacillus

Please use CTRL for multiple selection fields

B. cereus

Value

FBO Code	
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	Chinese dish
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	Take-away or fast-food outlet
Place of origin of problem	Take-away or fast-food outlet
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

B. cereus

Value

FBO Code	
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Cereal products including rice and seeds/pulses (nuts, almonds)
More food vehicle information	Chinese noodles
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	Take-away or fast-food outlet
Place of origin of problem	Take-away or fast-food outlet
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

B. cereus

Value

FBO Code	
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Cereal products including rice and seeds/pulses (nuts, almonds)
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 or Cafe or Pub or Bar or Hotel or Catering service
Place of origin of problem	Restaurant or Cafe or Pub or Bar or Hotel or Catering service
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Campylobacter

Please use CTRL for multiple selection fields

Campylobacter spp., unspecified

Value

FBO Code	
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	unknown
Number of deaths	unknown
Food vehicle	Mixed food
More food vehicle information	goose liver with olives and "spekkoek"
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 or Cafe or Pub or Bar or Hotel or Catering service
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	
Number of outbreaks	1
Number of human cases	7
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	oysters
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 or Cafe or Pub or Bar or Hotel or Catering service
Place of origin of problem	Others
Origin of food vehicle	Unknown
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	mussels
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
Setting	Household
Place of origin of problem	Others
Origin of food vehicle	Unknown
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	oysters
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 or Cafe or Pub or Bar or Hotel or Catering service
Place of origin of problem	Others
Origin of food vehicle	Unknown
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	shellfish
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 or Cafe or Pub or Bar or Hotel or Catering service
Place of origin of problem	Others
Origin of food vehicle	Unknown
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	