European Food Safety Authority

ZOONOSES MONITORING

Germany

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

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

IN 2017

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 Germany during the year 2017.

The information covers the occurrence of these diseases and agents in animals, foodstuffs and in some cases also in feedingstuffs. In addition the report includes data on antimicrobial resistance in some zoonotic agents and indicator 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 Union 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 European Union 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 European Union Summary Reports on zoonoses and antimicrobial resistance that are published each year by EFSA.

The national report contains two parts: tables summarising data reported in the Data Collection Framework and the related text forms. The text forms were sent by email as pdf files and they are incorporated at the end of the report.

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

List of Contents

ANIMAL POPULATION TABLES

Table Susceptible animal population

Animal species	Category of animals	Population		
		holding	animal	herd/flock
Cattle (bovine animals)	Cattle (bovine animals)	148,757	12,281,195	
	Cattle (bovine animals) - calves (under 1 year)		3,704,223	
	Cattle (bovine animals) - dairy cows		4,199,010	
	Cattle (bovine animals) - young cattle (1-2 years)		2,904,251	
Gallus gallus (fowl)	Gallus gallus (fowl) - broilers - before slaughter	8,887		33,950
	Gallus gallus (fowl) - elite breeding flocks, unspecified - adult	542		1,110
	Gallus gallus (fowl) - laying hens - adult	210,101		315,470
Pigs	Pigs		27,577,600	
	Pigs - breeding animals		1,929,600	
	Pigs - fattening pigs		12,239,500	
Sheep and goats	Sheep and goats	126,715	2,370,290	
Solipeds, domestic	Solipeds, domestic		440,000	
Turkeys	Turkeys - breeding flocks, unspecified - adult	132		179
	Turkeys - fattening flocks - before slaughter	5,099		9,052

DISEASE STATUS TABLES

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

Region	Number of herds with status officially free	Number of infected herds	Total number of herds
GERMANY	148,757	0	148,757

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

Region	Number of herds with status officially free	Number of infected herds	Total number of herds
GERMANY	126,715	0	126,715

DISEASE STATUS TABLES

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

Region	Number of herds with status officially free	Number of infected herds	Total number of herds
GERMANY	148,757	3	148,757

PREVALENCE TABLES

Table Campylobacter:CAMPYLOBACTER in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Pigs - fattening pigs - Slaughterhouse - Germany - animal sample - caecum - Monitoring - active - Official sampling - Objective sampling	ISO 10272-2:2017 Campylobacter	slaughter animal batch	380	287	Campylobacter	287

Table Campylobacter:CAMPYLOBACTER in food

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Meat from broilers (Gallus gallus) - carcase - chilled - Slaughterhouse - Germany - food sample - neck skin - Monitoring - active - Official sampling - Objective sampling	slaughter animal batch	1	Gram	ISO 10272-2:2017 Campylobacter	370	183	Campylobacter	183
	Meat from broilers (Gallus gallus) - fresh - skinned - Retail - Germany - food sample - meat - Monitoring - active - Official sampling - Objective sampling	single (food/feed)	1	Gram	ISO 10272-2:2017 Campylobacter	407	31	Campylobacter	31
	Meat from broilers (Gallus gallus) - fresh - skinned - Retail - Germany - food sample - meat - Monitoring - active - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 10272-1:2017 Campylobacter	407	211	Campylobacter	211
GERMANY	Meat from bovine animals - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	17	6	Campylobacter	4
								Campylobacter jejuni	2
	Meat from broilers (Gallus gallus) - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	67	23	Campylobacter	19
								Campylobacter coli	1
								Campylobacter jejuni	3
	Meat from broilers (Gallus gallus) - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	26	21	Campylobacter	6
								Campylobacter coli	2
								Campylobacter jejuni	13
	Meat from broilers (Gallus gallus) - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	205	122	Campylobacter	61
								Campylobacter coli	7
								Campylobacter jejuni	53
								Campylobacter lari	1
	Meat from broilers (Gallus gallus) - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	268	120	Campylobacter	57
								Campylobacter coli	11
								Campylobacter jejuni	52
	Meat from broilers (Gallus gallus) - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	2	2	Campylobacter jejuni	2
	Meat from broilers (Gallus gallus) - fresh - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	4	3	Campylobacter	2
								Campylobacter jejuni	1
	Meat from broilers (Gallus gallus) - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	11	3	Campylobacter	1
								Campylobacter coli	1
								Campylobacter jejuni	1
	Meat from broilers (Gallus gallus) - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	57	28	Campylobacter	18
								Campylobacter coli	1
								Campylobacter jejuni	9
	Meat from broilers (Gallus gallus) - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	23	11	Campylobacter	3
								Campylobacter coli	2
								Campylobacter jejuni	6
	Meat from pig - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	7	4	Campylobacter coli	4
	Meat from turkey - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	4	4	Campylobacter jejuni	4
	Meat from turkey - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	6	4	Campylobacter	2
								Campylobacter coli	2
	Meat from turkey - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	42	12	Campylobacter	7
								Campylobacter coli	4
								Campylobacter jejuni	1
	Meat from turkey - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	40	9	Campylobacter	5
								Campylobacter jejuni	4
	Meat from turkey - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	2	2	Campylobacter coli	2
	Meat from turkey - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	42	7	Campylobacter	4
								Campylobacter coli	1
								Campylobacter jejuni	2
	Milk, cows' - raw milk for manufacture - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	185	13	Campylobacter	8
								Campylobacter jejuni	5

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Milk, cows' - raw milk for manufacture - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	177	5	Campylobacter	2
								Campylobacter jejuni	3
	Milk, cows' - raw milk for manufacture - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	33	3	Campylobacter	1
								Campylobacter jejuni	2

Table Cronobacter:CRONOBACTER in food

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Infant formula - dried - intended for infants below 6 months - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	10	0	Cronobacter	0
	Infant formula - dried - intended for infants below 6 months - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO/TS 22964:2006 (IDF/RM 210: 2006) Cronobacter spp. (Enterobacter sakazakii)	4	0	Cronobacter	0

Table Echinococcus:ECHINOCOCCUS in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Foxes - Unspecified - Germany - animal sample - Unspecified - Official sampling - Not specified	Staining	animal	1746	3	Echinococcus multilocularis	3
	Foxes - Unspecified - Germany - animal sample - Unspecified - Official sampling - Not specified	Unspecified	animal	15	12	Echinococcus multilocularis	12

Area of sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	total units tested	total units positive	Zoonoses	ANTH	VTX	AG	N units positive
Not Available	Meat from bovine animals - fresh - Retail - Germany - food sample - meat - Monitoring - active - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	341	21	VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	21
	Meat from bovine animals - minced meat - Retail - Germany - food sample - meat - Monitoring - active - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	284	10	VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	10
GERMANY	Meat from bovine animals - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	16	2	VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	2
	Meat from bovine animals - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	427	24	VTEC O157	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	1
								VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	23
	Meat from deer (venison) - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	16	6	VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	6
	Meat from pig - meat products - fermented sausages - Retail - Germany - food sample - meat - Monitoring - active - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	404	7	VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	7
	Meat from pig - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	35	1	VTEC O8	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	1
								VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	0
	Meat from wild boar - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	16	3	VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	3
	Meat from wild boar - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	25	5	VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	5
	Meat from wild boar - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	5	2	VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	2
	Milk, cows' - raw milk - intended for direct human consumption - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	7	1	VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	1
	Milk, cows' - raw milk for manufacture - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	144	5	VTEC O146	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	1
								VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	4
	Seeds, sprouted - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	56	2	VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	2

Area of sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	total units tested	total units positive	Zoonoses	ANTH	VTX	AG	N units positive
GERMANY	Seeds, sprouted - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	256	4	VTEC, unspecified	Not Available	Verotoxin production, toxin type unknown	Adhesion genes investigation not reported	4

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Method	Zoonoses	N of units tested	N of units positive
GERMANY	Bakery products - bread - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	5	0	detection	Listeria monocytogenes	5	0
	Bakery products - bread - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	47	7	detection	Listeria monocytogenes	47	7
	Bakery products - cakes - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	32	3	detection	Listeria monocytogenes	32	3
	Bakery products - cakes - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	929	188	<= 100	Listeria monocytogenes	216	188
							>100	Listeria monocytogenes	216	0
	Bakery products - cakes - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	929	188	detection	Listeria monocytogenes	929	188
	Bakery products - cakes - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	11	0	detection	Listeria monocytogenes	11	0
	Bakery products - desserts - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	detection	Listeria monocytogenes	1	0
	Bakery products - desserts - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	24	3	detection	Listeria monocytogenes	24	3
	Bakery products - pastry - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	82	4	detection	Listeria monocytogenes	82	4
	Bakery products - pastry - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1202	227	<= 100	Listeria monocytogenes	318	56
							>100	Listeria monocytogenes	318	2
	Bakery products - pastry - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1202	227	detection	Listeria monocytogenes	1,202	227
	Bakery products - pastry - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	8	0	detection	Listeria monocytogenes	8	0
	Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	2	0	detection	Listeria monocytogenes	2	0
	Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	2	0	detection	Listeria monocytogenes	2	0
	Cheeses made from goats' milk - unspecified - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	8	0	detection	Listeria monocytogenes	8	0
	Cheeses made from goats' milk - unspecified - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	9	0	detection	Listeria monocytogenes	9	0
	Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	2	0	detection	Listeria monocytogenes	2	0
	Cheeses made from sheep's milk - unspecified - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	17	1	<= 100	Listeria monocytogenes	1	1
							>100	Listeria monocytogenes	1	0
	Cheeses made from sheep's milk - unspecified - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	17	1	detection	Listeria monocytogenes	17	1
	Cheeses made from sheep's milk - unspecified - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	81	11	<= 100	Listeria monocytogenes	11	10
							>100	Listeria monocytogenes	11	1
	Cheeses made from sheep's milk - unspecified - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	81	11	detection	Listeria monocytogenes	81	11

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Method	Zoonoses	N of units tested	N of units positive
GERMANY	Cheeses made from sheep's milk - unspecified - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	5	0	detection	Listeria monocytogenes	5	0
	Dairy products (excluding cheeses) - milk powder and whey powder - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	10	0	detection	Listeria monocytogenes	10	0
	Dairy products (excluding cheeses) - milk powder and whey powder - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	3	0	<= 100	Listeria monocytogenes	3	0
							>100	Listeria monocytogenes	3	0
	Dairy products (excluding cheeses) - milk powder and whey powder - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	3	0	detection	Listeria monocytogenes	3	0
	Fish - smoked - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	245	35	<= 100	Listeria monocytogenes	60	34
							>100	Listeria monocytogenes	60	1
	Fish - smoked - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	245	35	detection	Listeria monocytogenes	245	35
	Fish - smoked - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1111	162	<= 100	Listeria monocytogenes	362	156
							>100	Listeria monocytogenes	362	3
	Fish - smoked - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1111	162	detection	Listeria monocytogenes	1,111	162
	Fish - smoked - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	46	1	<= 100	Listeria monocytogenes	4	0
							>100	Listeria monocytogenes	4	1
	Fish - smoked - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	46	1	detection	Listeria monocytogenes	46	1
	Infant formula - dried - intended for infants below 6 months - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	66	0	detection	Listeria monocytogenes	66	0
	Infant formula - dried - intended for infants below 6 months - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	38	0	detection	Listeria monocytogenes	38	0
	Infant formula - dried - intended for infants below 6 months - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	6	0	detection	Listeria monocytogenes	6	0
	Meat from bovine animals - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	48	6	<= 100	Listeria monocytogenes	25	6
							>100	Listeria monocytogenes	25	0
	Meat from bovine animals - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	48	6	detection	Listeria monocytogenes	48	6
	Meat from bovine animals - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	240	23	<= 100	Listeria monocytogenes	41	3
							>100	Listeria monocytogenes	41	0
	Meat from bovine animals - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	240	23	detection	Listeria monocytogenes	240	23
	Meat from bovine animals - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	12	0	detection	Listeria monocytogenes	12	0
	Meat from broilers (Gallus gallus) - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	72	6	<= 100	Listeria monocytogenes	16	2
							>100	Listeria monocytogenes	16	0
	Meat from broilers (Gallus gallus) - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	72	6	detection	Listeria monocytogenes	72	6
	Meat from broilers (Gallus gallus) - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	73	20	<= 100	Listeria monocytogenes	21	20
							>100	Listeria monocytogenes	21	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Method	Zoonoses	N of units tested	N of units positive
GERMANY	Meat from broilers (Gallus gallus) - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	73	20	detection	Listeria monocytogenes	73	20
	Meat from pig - meat products - fermented sausages - Retail - Germany - food sample - meat - Monitoring - active - Official sampling - Objective sampling	single (food/feed)	25	Gram	393	48	detection	Listeria monocytogenes	393	48
	Meat from pig - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	320	40	<= 100	Listeria monocytogenes	163	40
							>100	Listeria monocytogenes	163	0
	Meat from pig - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	320	40	detection	Listeria monocytogenes	320	40
	Meat from pig - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1736	143	<= 100	Listeria monocytogenes	586	118
							>100	Listeria monocytogenes	586	2
	Meat from pig - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1736	143	detection	Listeria monocytogenes	1,736	143
	Meat from pig - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	200	0	<= 100	Listeria monocytogenes	6	0
							>100	Listeria monocytogenes	6	0
	Meat from pig - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	200	0	detection	Listeria monocytogenes	200	0
	Meat from sheep - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	3	2	<= 100	Listeria monocytogenes	1	0
							>100	Listeria monocytogenes	1	0
	Meat from sheep - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	3	2	detection	Listeria monocytogenes	3	2
	Meat from turkey - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	31	0	<= 100	Listeria monocytogenes	20	0
							>100	Listeria monocytogenes	20	0
	Meat from turkey - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	31	0	detection	Listeria monocytogenes	31	0
	Meat from turkey - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	69	6	<= 100	Listeria monocytogenes	21	1
							>100	Listeria monocytogenes	21	0
	Meat from turkey - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	69	6	detection	Listeria monocytogenes	69	6
	Milk, cows' - pasteurised milk - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	184	18	<= 100	Listeria monocytogenes	20	18
							>100	Listeria monocytogenes	20	0
	Milk, cows' - pasteurised milk - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	184	18	detection	Listeria monocytogenes	184	18
	Milk, cows' - pasteurised milk - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	264	29	<= 100	Listeria monocytogenes	31	29
							>100	Listeria monocytogenes	31	0
	Milk, cows' - pasteurised milk - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	264	29	detection	Listeria monocytogenes	264	29
	Milk, cows' - pasteurised milk - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	detection	Listeria monocytogenes	1	0
	Milk, cows' - raw milk - intended for direct human consumption - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	72	4	detection	Listeria monocytogenes	72	4

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Method	Zoonoses	N of units tested	N of units positive
GERMANY	Milk, cows' - raw milk for manufacture - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	237	51	<= 100	Listeria monocytogenes	78	51
							>100	Listeria monocytogenes	78	0
	Milk, cows' - raw milk for manufacture - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	237	51	detection	Listeria monocytogenes	237	51
	Milk, cows' - raw milk for manufacture - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	82	4	<= 100	Listeria monocytogenes	17	3
							>100	Listeria monocytogenes	17	0
	Milk, cows' - raw milk for manufacture - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	82	4	detection	Listeria monocytogenes	82	4
	Milk, cows' - raw milk for manufacture - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	4	4	<= 100	Listeria monocytogenes	4	4
							>100	Listeria monocytogenes	4	0
	Milk, cows' - raw milk for manufacture - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	4	4	detection	Listeria monocytogenes	4	4
	Ready-to-eat salads - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	18	8	<= 100	Listeria monocytogenes	8	8
							>100	Listeria monocytogenes	8	0
	Ready-to-eat salads - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	18	8	detection	Listeria monocytogenes	18	8
	Ready-to-eat salads - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	157	26	<= 100	Listeria monocytogenes	64	26
							>100	Listeria monocytogenes	64	0
	Ready-to-eat salads - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	157	26	detection	Listeria monocytogenes	157	26
	Vegetables - pre-cut - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	8	0	detection	Listeria monocytogenes	8	0
	Vegetables - pre-cut - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	29	0	detection	Listeria monocytogenes	29	0

Table Lyssavirus:LYSSAVIRUS in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Bats - Natural habitat - Germany - animal sample - Surveillance - Official sampling - Suspect sampling	Classification not possible	animal	385	15	Lyssavirus	15

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	N of flocks under control programme	Target verification	Method	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Gallus gallus (fowl) - breeding flocks for broiler production line - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	395	N	Not Available	385	18	Salmonella Enteritidis	3
								Salmonella Hadar	0
								Salmonella Infantis	1
								Salmonella spp., unspecified	12
								Salmonella Typhimurium	2
								Salmonella Virchow	0
	Gallus gallus (fowl) - breeding flocks for broiler production line - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	395	Y	Not Available	385	18	Salmonella Enteritidis	3
								Salmonella Hadar	0
								Salmonella Infantis	1
								Salmonella spp., unspecified	12
								Salmonella Typhimurium	2
								Salmonella Virchow	0
	Gallus gallus (fowl) - breeding flocks for broiler production line - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Census	herd/flock	395	N	Not Available	374	3	Salmonella Enteritidis	3
								Salmonella Hadar	0
								Salmonella Infantis	0
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
								Salmonella Virchow	0
	Gallus gallus (fowl) - breeding flocks for egg production line - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	215	N	Not Available	215	0	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	0
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
								Salmonella Virchow	0
	Gallus gallus (fowl) - breeding flocks for egg production line - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	215	Y	Not Available	215	0	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	0
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
								Salmonella Virchow	0
	Gallus gallus (fowl) - breeding flocks for egg production line - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Census	herd/flock	215	N	Not Available	212	0	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	0
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
								Salmonella Virchow	0
	Gallus gallus (fowl) - breeding flocks, unspecified - during rearing period - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	292	N	Not Available	286	3	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	1
								Salmonella spp., unspecified	2
								Salmonella Typhimurium	0
								Salmonella Virchow	0
	Gallus gallus (fowl) - breeding flocks, unspecified - during rearing period - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	292	N	Not Available	289	5	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	1
								Salmonella spp., unspecified	2
								Salmonella Typhimurium	2
								Salmonella Virchow	0
	Gallus gallus (fowl) - breeding flocks, unspecified - during rearing period - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Census	herd/flock	292	N	Not Available	6	2	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	0
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	2
								Salmonella Virchow	0
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	24406	N	Not Available	24088	487	Salmonella Enteritidis	7
								Salmonella spp., unspecified	477
								Salmonella Typhimurium	3

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	N of flocks under control programme	Target verification	Method	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Gallus gallus (fowl) - broilers - before slaughter - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	24406	Y	Not Available	24088	500	Salmonella Enteritidis	7
								Salmonella spp., unspecified	489
								Salmonella Typhimurium	4
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Census	herd/flock	24406	N	Not Available	378	23	Salmonella Enteritidis	6
								Salmonella spp., unspecified	15
								Salmonella Typhimurium	2
	Gallus gallus (fowl) - elite breeding flocks, unspecified - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	8	N	Not Available	8	0	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	0
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
								Salmonella Virchow	0
	Gallus gallus (fowl) - elite breeding flocks, unspecified - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	8	Y	Not Available	8	0	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	0
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
								Salmonella Virchow	0
	Gallus gallus (fowl) - elite breeding flocks, unspecified - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Census	herd/flock	8	N	Not Available	8	0	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	0
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
								Salmonella Virchow	0
	Gallus gallus (fowl) - grandparent breeding flocks, unspecified - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	204	N	Not Available	202	0	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	0
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
								Salmonella Virchow	0
	Gallus gallus (fowl) - grandparent breeding flocks, unspecified - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	204	Y	Not Available	202	0	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	0
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
								Salmonella Virchow	0
	Gallus gallus (fowl) - grandparent breeding flocks, unspecified - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Census	herd/flock	204	N	Not Available	195	0	Salmonella Enteritidis	0
								Salmonella Hadar	0
								Salmonella Infantis	0
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
								Salmonella Virchow	0
	Gallus gallus (fowl) - laying hens - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	5652	N	Not Available	5610	45	Salmonella Enteritidis	3
								Salmonella Other serovars	29
								Salmonella Typhimurium	13
	Gallus gallus (fowl) - laying hens - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	5652	Y	Not Available	5652	105	Salmonella Enteritidis	27
								Salmonella spp., unspecified	47
								Salmonella Typhimurium	31
	Gallus gallus (fowl) - laying hens - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Census	herd/flock	5652	N	Not Available	2856	66	Salmonella Enteritidis	26
								Salmonella spp., unspecified	21
								Salmonella Typhimurium	19
	Gallus gallus (fowl) - laying hens - during rearing period - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	607	N	Not Available	607	9	Salmonella Enteritidis	5
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	4
	Gallus gallus (fowl) - laying hens - during rearing period - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	607	N	Not Available	607	9	Salmonella Enteritidis	5
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	4
	Gallus gallus (fowl) - laying hens - during rearing period - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Census	herd/flock	607	N	Not Available	63	5	Salmonella Enteritidis	1
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	4

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	N of flocks under control programme	Target verification	Method	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Turkeys - breeding flocks, unspecified - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	92	N	Not Available	90	1	Salmonella Enteritidis	1
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
	Turkeys - breeding flocks, unspecified - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	92	Y	Not Available	90	2	Salmonella Enteritidis	1
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	1
	Turkeys - breeding flocks, unspecified - adult - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Census	herd/flock	92	N	Not Available	73	2	Salmonella Enteritidis	1
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	1
	Turkeys - breeding flocks, unspecified - during rearing period - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	37	N	Not Available	32	1	Salmonella Enteritidis	1
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
	Turkeys - breeding flocks, unspecified - during rearing period - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	37	N	Not Available	32	1	Salmonella Enteritidis	1
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
	Turkeys - breeding flocks, unspecified - during rearing period - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Census	herd/flock	37	N	Not Available	1	1	Salmonella Enteritidis	1
								Salmonella spp., unspecified	0
								Salmonella Typhimurium	0
	Turkeys - fattening flocks - before slaughter - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	4721	N	Not Available	4681	11	Salmonella Enteritidis	1
								Salmonella spp., unspecified	10
								Salmonella Typhimurium	0
	Turkeys - fattening flocks - before slaughter - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	4721	Y	Not Available	4681	27	Salmonella Enteritidis	6
								Salmonella spp., unspecified	15
								Salmonella Typhimurium	6
	Turkeys - fattening flocks - before slaughter - Farm - Germany - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Census	herd/flock	4721	N	Not Available	188	19	Salmonella Enteritidis	6
								Salmonella spp., unspecified	7
								Salmonella Typhimurium	6
GERMANY	Cattle (bovine animals) - calves (under 1 year) - Farm - Germany - animal sample - Surveillance - Official sampling - Objective sampling	animal	0	N	Microbiological tests	3	0	Salmonella	0
	Cattle (bovine animals) - dairy cows - Farm - Germany - animal sample - Surveillance - Official sampling - Objective sampling	animal	0	N	Microbiological tests	3	0	Salmonella	0
	Cattle (bovine animals) - meat production animals - Unspecified - Germany - animal sample - Unspecified - Official sampling - Not specified	animal	0	N	Unspecified	24	0	Salmonella	0
	Pigs - fattening pigs - Farm - Germany - animal sample - faeces - Monitoring - active - Official sampling - Objective sampling	herd/flock		N_A	ISO 6579-1:2017 Salmonella	330	26	Salmonella	26
	Pigs - fattening pigs - Slaughterhouse - Germany - animal sample - caecum - Monitoring - active - Official sampling - Objective sampling	slaughter animal batch		N_A	ISO 6579-1:2017 Salmonella	380	23	Salmonella	23
	Pigs - fattening pigs - unspecified - Farm - Germany - animal sample - Surveillance - Official sampling - Objective sampling	animal	0	N	Microbiological tests	31	1	Salmonella Typhimurium	1

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Bakery products - bread - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	2	0	Salmonella	0
	Bakery products - bread - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	5	0	Salmonella	0
	Bakery products - bread - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	48	0	Salmonella	0
	Bakery products - bread - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	3	0	Salmonella	0
	Bakery products - bread - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	39	0	Salmonella	0
	Bakery products - bread - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	6	0	Salmonella	0
	Bakery products - cakes - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	3	0	Salmonella	0
	Bakery products - cakes - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	23	0	Salmonella	0
	Bakery products - cakes - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	2	0	Salmonella	0
	Bakery products - cakes - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	749	0	Salmonella	0
	Bakery products - cakes - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 6579:2002 Salmonella	27	0	Salmonella	0
	Bakery products - cakes - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	226	0	Salmonella	0
	Bakery products - cakes - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	21	0	Salmonella	0
	Bakery products - cakes - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	1	0	Salmonella	0
	Bakery products - cakes - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	7	0	Salmonella	0
	Bakery products - desserts - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	3	0	Salmonella	0
	Bakery products - desserts - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	32	0	Salmonella	0
	Bakery products - desserts - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	1	0	Salmonella	0
	Bakery products - desserts - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	1	0	Salmonella	0
	Bakery products - pastry - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	87	0	Salmonella	0
	Bakery products - pastry - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	36	0	Salmonella	0
	Bakery products - pastry - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	1137	0	Salmonella	0
	Bakery products - pastry - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 6579:2002 Salmonella	113	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Bakery products - pastry - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	173	0	Salmonella	0
	Bakery products - pastry - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	162	4	Salmonella	4
	Bakery products - pastry - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	4	0	Salmonella	0
	Bakery products - pastry - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	6	0	Salmonella	0
	Cheeses made from goats' milk - unspecified - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	1	0	Salmonella	0
	Cheeses made from goats' milk - unspecified - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	10	0	Salmonella	0
	Cheeses made from sheep's milk - unspecified - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	11	0	Salmonella	0
	Cheeses made from sheep's milk - unspecified - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	1	0	Salmonella	0
	Cheeses made from sheep's milk - unspecified - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	34	0	Salmonella	0
	Cheeses made from sheep's milk - unspecified - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	10	0	Salmonella	0
	Cheeses made from sheep's milk - unspecified - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	4	0	Salmonella	0
	Dairy products (excluding cheeses) - milk powder and whey powder - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	12	0	Salmonella	0
	Eggs - table eggs - shell - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	879	0	Salmonella	0
	Eggs - table eggs - shell - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	547	0	Salmonella	0
	Eggs - table eggs - shell - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	4	0	Salmonella	0
	Eggs - table eggs - shell - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	4	0	Salmonella	0
	Eggs - table eggs - white - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	203	0	Salmonella	0
	Eggs - table eggs - white - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	3	0	Salmonella	0
	Eggs - table eggs - white - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	39	0	Salmonella	0
	Eggs - table eggs - white - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	2	0	Salmonella	0
	Eggs - table eggs - white - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	51	0	Salmonella	0
	Eggs - table eggs - white - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	4	0	Salmonella	0
	Eggs - table eggs - whole - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	80	0	Salmonella	0
	Eggs - table eggs - whole - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 6579:2002 Salmonella	2	0	Salmonella	0
	Eggs - table eggs - whole - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	100	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Eggs - table eggs - whole - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	10	0	Salmonella	0
	Eggs - table eggs - whole - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	702	0	Salmonella	0
	Eggs - table eggs - whole - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 6579:2002 Salmonella	66	0	Salmonella	0
	Eggs - table eggs - whole - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	228	0	Salmonella	0
	Eggs - table eggs - whole - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	10	0	Salmonella	0
	Eggs - table eggs - whole - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	4	0	Salmonella	0
	Eggs - table eggs - whole - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	12	0	Salmonella	0
	Eggs - table eggs - yolk - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	879	0	Salmonella	0
	Eggs - table eggs - yolk - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	547	0	Salmonella	0
	Eggs - table eggs - yolk - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	4	0	Salmonella	0
	Eggs - table eggs - yolk - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	4	0	Salmonella	0
	Infant formula - dried - intended for infants below 6 months - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	6	0	Salmonella	0
	Infant formula - dried - intended for infants below 6 months - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	28	0	Salmonella	0
	Infant formula - dried - intended for infants below 6 months - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	12	0	Salmonella	0
	Infant formula - dried - intended for infants below 6 months - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	7	0	Salmonella	0
	Infant formula - dried - intended for infants below 6 months - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	10	0	Salmonella	0
	Infant formula - dried - intended for infants below 6 months - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	36	0	Salmonella	0
	Infant formula - dried - intended for infants below 6 months - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	3	0	Salmonella	0
	Infant formula - dried - intended for infants below 6 months - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	2	0	Salmonella	0
	Meat from bovine animals - carcase - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	29	0	Salmonella	0
	Meat from bovine animals - carcase - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	1	0	Salmonella	0
	Meat from bovine animals - carcase - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	4	0	Salmonella	0
	Meat from bovine animals - carcase - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	92	0	Salmonella	0
	Meat from bovine animals - carcase - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 6579:2002 Salmonella	20	0	Salmonella	0
	Meat from bovine animals - carcase - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	45	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Meat from bovine animals - carcase - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	3	0	Salmonella	0
	Meat from bovine animals - carcase - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	1	0	Salmonella	0
	Meat from bovine animals - carcase - Unspecified - Germany - food sample - Unspecified - Official sampling - Not specified	single (food/feed)	25	Gram	Unspecified	3	0	Salmonella	0
	Meat from bovine animals - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	66	0	Salmonella	0
	Meat from bovine animals - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	56	1	Salmonella Braenderup	1
	Meat from bovine animals - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	10	0	Salmonella	0
	Meat from bovine animals - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	276	0	Salmonella	0
	Meat from bovine animals - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	139	0	Salmonella	0
	Meat from bovine animals - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	67	0	Salmonella	0
	Meat from bovine animals - fresh - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	8	0	Salmonella	0
	Meat from bovine animals - fresh - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	3	0	Salmonella	0
	Meat from bovine animals - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	19	0	Salmonella	0
	Meat from bovine animals - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	16	0	Salmonella	0
	Meat from bovine animals - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	1	0	Salmonella	0
	Meat from bovine animals - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	90	0	Salmonella	0
	Meat from bovine animals - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	82	0	Salmonella	0
	Meat from bovine animals - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	16	0	Salmonella	0
	Meat from bovine animals - meat preparation - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	1	0	Salmonella	0
	Meat from bovine animals - meat preparation - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	1	0	Salmonella	0
	Meat from bovine animals - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	29	0	Salmonella	0
	Meat from bovine animals - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	10	0	Salmonella	0
	Meat from bovine animals - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	4	0	Salmonella	0
	Meat from bovine animals - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	144	0	Salmonella	0
	Meat from bovine animals - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	26	0	Salmonella	0
	Meat from bovine animals - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	3	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Meat from bovine animals - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	1	0	Salmonella	0
	Meat from bovine animals - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	1	0	Salmonella	0
	Meat from bovine animals - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	14	0	Salmonella	0
	Meat from bovine animals - minced meat - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	77	1	Salmonella Brandenburg	1
	Meat from bovine animals - minced meat - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	18	0	Salmonella	0
	Meat from bovine animals - minced meat - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	10	0	Salmonella	0
	Meat from bovine animals - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	679	9	Salmonella	5
								Salmonella Infantis	1
								Salmonella Typhimurium	3
	Meat from bovine animals - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	229	0	Salmonella	0
	Meat from bovine animals - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	69	0	Salmonella	0
	Meat from bovine animals - minced meat - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	4	0	Salmonella	0
	Meat from bovine animals - minced meat - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	8	0	Salmonella	0
	Meat from bovine animals - minced meat - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	33	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	91	7	Salmonella	3
								Salmonella Indiana	1
								Salmonella Infantis	2
								Salmonella Typhimurium	1
	Meat from broilers (Gallus gallus) - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	42	1	Salmonella Java	1
	Meat from broilers (Gallus gallus) - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	48	2	Salmonella	2
	Meat from broilers (Gallus gallus) - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	189	15	Salmonella	7
								Salmonella Infantis	7
								Salmonella Java	1
	Meat from broilers (Gallus gallus) - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	144	4	Salmonella Infantis	2
								Salmonella Java	1
								Salmonella Virchow	1
	Meat from broilers (Gallus gallus) - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	54	3	Salmonella	3
	Meat from broilers (Gallus gallus) - fresh - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	4	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	4	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	2	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	23	3	Salmonella Infantis	3
	Meat from broilers (Gallus gallus) - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	32	2	Salmonella Infantis	1
								Salmonella Java	1

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Meat from broilers (Gallus gallus) - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	20	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	119	17	Salmonella	9
								Salmonella Albany	2
								Salmonella group B	2
								Salmonella Heidelberg	2
								Salmonella Java	2
	Meat from broilers (Gallus gallus) - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	56	4	Salmonella	2
								Salmonella Indiana	1
								Salmonella Newport	1
	Meat from broilers (Gallus gallus) - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	17	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat preparation - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	2	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	10	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	5	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	1	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	72	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	17	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	7	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	50	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	2	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	22	0	Salmonella	0
	Meat from pig - carcase - Slaughterhouse - Germany - food sample - carcase swabs - Monitoring - active - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 6579-1:2017 Salmonella	385	11	Salmonella	11
	Meat from pig - carcase - Slaughterhouse - Germany - food sample - carcase swabs - Surveillance - based on Regulation 2073 - HACCP and own check - Objective sampling	single (food/feed)	400	Square centimetre	Classification not possible	22201	117	Salmonella	117
	Meat from pig - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	269	6	Salmonella	6
	Meat from pig - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	107	2	Salmonella	1
								Salmonella Brandenburg	1
	Meat from pig - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	27	0	Salmonella	0
	Meat from pig - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	965	7	Salmonella	4
								Salmonella Typhimurium	3
	Meat from pig - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	225	0	Salmonella	0
	Meat from pig - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	96	0	Salmonella	0
	Meat from pig - fresh - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	6	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Meat from pig - fresh - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	6	0	Salmonella	0
	Meat from pig - fresh - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	7	0	Salmonella	0
	Meat from pig - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	56	0	Salmonella	0
	Meat from pig - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	31	0	Salmonella	0
	Meat from pig - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	29	0	Salmonella	0
	Meat from pig - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	687	19	Salmonella	10
								Salmonella Derby	1
								Salmonella Infantis	1
								Salmonella Typhimurium	7
	Meat from pig - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	272	0	Salmonella	0
	Meat from pig - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	88	3	Salmonella	3
	Meat from pig - meat preparation - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	5	0	Salmonella	0
	Meat from pig - meat preparation - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	8	0	Salmonella	0
	Meat from pig - meat preparation - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	7	0	Salmonella	0
	Meat from pig - meat products - fermented sausages - Retail - Germany - food sample - meat - Monitoring - active - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 6579-1:2017 Salmonella	403	0	Salmonella	0
	Meat from pig - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	169	0	Salmonella	0
	Meat from pig - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	96	0	Salmonella	0
	Meat from pig - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	22	0	Salmonella	0
	Meat from pig - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	930	7	Salmonella	4
								Salmonella Derby	1
								Salmonella Typhimurium	2
	Meat from pig - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	320	0	Salmonella	0
	Meat from pig - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	89	2	Salmonella	2
	Meat from pig - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	4	0	Salmonella	0
	Meat from pig - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	11	0	Salmonella	0
	Meat from pig - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	96	0	Salmonella	0
	Meat from pig - minced meat - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	115	1	Salmonella Derby	1
	Meat from pig - minced meat - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	1	0	Salmonella	0
	Meat from pig - minced meat - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	11	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Meat from pig - minced meat - Retail - Germany - food sample - meat - Monitoring - active - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 6579-1:2017 Salmonella	401	3	Salmonella	3
	Meat from pig - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	518	3	Salmonella	2
								Salmonella enterica subsp. enterica rough	1
	Meat from pig - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	105	1	Salmonella	1
	Meat from pig - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	163	0	Salmonella	0
	Meat from pig - minced meat - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	3	0	Salmonella	0
	Meat from pig - minced meat - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	1	0	Salmonella	0
	Meat from pig - minced meat - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	7	0	Salmonella	0
	Meat from sheep - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	7	0	Salmonella	0
	Meat from sheep - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	5	0	Salmonella	0
	Meat from sheep - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	22	0	Salmonella	0
	Meat from sheep - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	22	1	Salmonella Java	1
	Meat from sheep - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	11	0	Salmonella	0
	Meat from sheep - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	1	0	Salmonella	0
	Meat from sheep - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	8	0	Salmonella	0
	Meat from sheep - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	3	0	Salmonella	0
	Meat from sheep - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	1	0	Salmonella	0
	Meat from sheep - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	2	0	Salmonella	0
	Meat from sheep - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	2	0	Salmonella	0
	Meat from sheep - minced meat - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	1	0	Salmonella	0
	Meat from sheep - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	2	0	Salmonella	0
	Meat from sheep - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	2	0	Salmonella	0
	Meat from turkey - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	13	0	Salmonella	0
	Meat from turkey - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	16	0	Salmonella	0
	Meat from turkey - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	22	0	Salmonella	0
	Meat from turkey - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	60	1	Salmonella	1

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Meat from turkey - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	48	0	Salmonella	0
	Meat from turkey - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	15	0	Salmonella	0
	Meat from turkey - fresh - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	3	0	Salmonella	0
	Meat from turkey - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	17	4	Salmonella	2
								Salmonella Infantis	2
	Meat from turkey - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	3	1	Salmonella Kottbus	1
	Meat from turkey - meat preparation - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	3	0	Salmonella	0
	Meat from turkey - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	51	0	Salmonella	0
	Meat from turkey - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	35	1	Salmonella Hadar	1
	Meat from turkey - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	3	0	Salmonella	0
	Meat from turkey - meat products - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	8	0	Salmonella	0
	Meat from turkey - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	53	0	Salmonella	0
	Meat from turkey - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	10	0	Salmonella	0
	Meat from turkey - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	1	0	Salmonella	0
	Meat from turkey - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	48	0	Salmonella	0
	Milk, cows' - raw milk - intended for direct human consumption - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	46	0	Salmonella	0
	Milk, cows' - raw milk - intended for direct human consumption - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	90	0	Salmonella	0
	Milk, cows' - raw milk for manufacture - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	210	0	Salmonella	0
	Milk, cows' - raw milk for manufacture - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	52	0	Salmonella	0
	Milk, cows' - raw milk for manufacture - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	93	0	Salmonella	0
	Milk, cows' - raw milk for manufacture - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	63	0	Salmonella	0
	Milk, cows' - raw milk for manufacture - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	7	0	Salmonella	0
	Milk, cows' - raw milk for manufacture - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	15	0	Salmonella	0
	Milk, cows' - raw milk for manufacture - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	4	0	Salmonella	0
	Milk, cows' - raw milk for manufacture - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	4	0	Salmonella	0
	Ready-to-eat salads - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	68	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Ready-to-eat salads - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	2	0	Salmonella	0
	Ready-to-eat salads - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	376	0	Salmonella	0
	Ready-to-eat salads - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 6579:2002 Salmonella	1	0	Salmonella	0
	Ready-to-eat salads - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	32	0	Salmonella	0
	Ready-to-eat salads - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	6	0	Salmonella	0
	Ready-to-eat salads - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	2	0	Salmonella	0
	Seeds, sprouted - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	1	0	Salmonella	0
	Seeds, sprouted - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 6579:2002 Salmonella	10	0	Salmonella	0
	Seeds, sprouted - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	4	0	Salmonella	0
	Seeds, sprouted - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	35	0	Salmonella	0
	Seeds, sprouted - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 6579:2002 Salmonella	9	0	Salmonella	0
	Seeds, sprouted - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	4	0	Salmonella	0
	Seeds, sprouted - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	10	0	Salmonella	0
	Vegetables - pre-cut - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	4	0	Salmonella	0
	Vegetables - pre-cut - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological standard tests	8	0	Salmonella	0
	Vegetables - pre-cut - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	22	0	Salmonella	0

Table Salmonella:SALMONELLA in feed

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Compound feedingstuffs for cattle - Farm - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	4	0	Salmonella	0
	Compound feedingstuffs for cattle - Feed mill - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	136	2	Salmonella Senftenberg	2
	Compound feedingstuffs for pigs - Feed mill - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	1	0	Salmonella	0
	Compound feedingstuffs for poultry, laying hens - Farm - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	1	0	Salmonella	0
	Compound feedingstuffs for poultry, laying hens - Feed mill - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	18	0	Salmonella	0
	Compound feedingstuffs for poultry, laying hens - Feed mill - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	9	0	Salmonella	0
	Compound feedingstuffs for poultry, laying hens - Retail - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	1	0	Salmonella	0
	Feed material of cereal grain origin - Farm - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	2	0	Salmonella	0
	Feed material of cereal grain origin - Feed mill - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	46	0	Salmonella	0
	Feed material of cereal grain origin - Retail - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	6	0	Salmonella	0
	Feed material of cereal grain origin - Unspecified - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	2	0	Salmonella	0
	Feed material of land animal origin - Border inspection activities - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	1	1	Salmonella	1
	Feed material of land animal origin - Feed mill - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	34	0	Salmonella	0
	Feed material of land animal origin - Unspecified - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	5	0	Salmonella	0
	Feed material of marine animal origin - Border inspection activities - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	78	44	Salmonella	3
								Salmonella Adelaide	3
								Salmonella Cerro	1
								Salmonella Derby	9
								Salmonella enterica, subspecies enterica	2
								Salmonella Javiana	3
								Salmonella Liverpool	6
								Salmonella Mbandaka	2
								Salmonella Ohio	7
								Salmonella Schwarzengrund	2
								Salmonella Senftenberg	3
								Salmonella Tennessee	3
	Feed material of oil seed or fruit origin - Feed mill - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	63	0	Salmonella	0
	Feed material of oil seed or fruit origin - Feed mill - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	17	0	Salmonella	0
	Feed material of oil seed or fruit origin - Retail - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	261	17	Salmonella Infantis	7
								Salmonella Senftenberg	10
	Feed material of oil seed or fruit origin - Unspecified - Germany - feed sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	18	0	Salmonella	0

Table Staphylococcus:STAPHYLOCOCCUS AUREUS METICILLIN RESISTANT (MRSA) in animal

Area of sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total Units Tested Attribute	Total Units Positive Attribute	Zoonoses	CC	Spa type	ML	Units positive
Not Available	Cattle (bovine animals) - calves (under or around 1 year) - veal calves (at or above 1 year) - Slaughterhouse - Germany - animal sample - nasal swab - Monitoring - active - Official sampling - Objective sampling	animal	25	Gram	Microbiological tests	348	138	Methicillin resistant Staphylococcus aureus (MRSA)				138
GERMANY	Pigs - fattening pigs - Farm - Germany - environmental sample - boot swabs - Monitoring - active - Official sampling - Objective sampling	herd/flock	25	Gram	Microbiological tests	341	130	Methicillin resistant Staphylococcus aureus (MRSA)				130

Table Staphylococcus:STAPHYLOCOCCUS AUREUS METICILLIN RESISTANT (MRSA) in food

Area of sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total Units Tested Attribute	Total Units Positive Attribute	Zoonoses	CC	Spa type	ML	Units positive
Not Available	Meat from bovine animals - fresh - Retail - Germany - food sample - meat - Monitoring - active - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	354	40	Methicillin resistant Staphylococcus aureus (MRSA)				40
	Meat from bovine animals - minced meat - Retail - Germany - food sample - meat - Monitoring - active - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	289	20	Methicillin resistant Staphylococcus aureus (MRSA)				20

Table Toxoplasma:TOXOPLASMA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Cats - Unspecified - Germany - animal sample - Unspecified - Official sampling - Not specified	Unspecified	animal	175	1	Toxoplasma spp., unspecified	1
	Dogs - Unspecified - Germany - animal sample - Unspecified - Official sampling - Not specified	PCR	animal	186	1	Toxoplasma spp., unspecified	1
	Goats - Unspecified - Germany - animal sample - Unspecified - Official sampling - Not specified	Enzyme-linked immunosorbent assay (ELISA)	animal	29	2	Toxoplasma spp., unspecified	2
	Sheep - Unspecified - Germany - animal sample - Unspecified - Official sampling - Not specified	Enzyme-linked immunosorbent assay (ELISA)	animal	173	2	Toxoplasma spp., unspecified	2

Table Trichinella:TRICHINELLA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Pigs - fattening pigs - not raised under controlled housing conditions - Slaughterhouse - Germany - animal sample - Surveillance - Official sampling - Census	Classification not possible	animal	56894081	0	Trichinella	0
	Solipeds, domestic - horses - Slaughterhouse - Germany - animal sample - Surveillance - Official sampling - Census	Classification not possible	animal	7533	0	Trichinella	0
	Wild boars - Hunting - Germany - animal sample - Surveillance - Official sampling - Census	Classification not possible	animal	276255	20	Trichinella	20

Table Yersinia:YERSINIA in food

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
GERMANY	Meat from bovine animals - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	10	0	Yersinia	0
	Meat from bovine animals - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 10273:2003 Yersinia	6	0	Yersinia	0
	Meat from bovine animals - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	1	0	Yersinia	0
	Meat from pig - fresh - Processing plant - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	4	0	Yersinia	0
	Meat from pig - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	35	2	Yersinia enterocolitica	2
	Meat from pig - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	14	2	Yersinia enterocolitica	2
	Meat from pig - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	22	0	Yersinia	0
	Meat from pig - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	2	0	Yersinia	0
	Meat from pig - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	2	0	Yersinia	0
	Meat from pig - meat preparation - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	12	0	Yersinia	0
	Meat from pig - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	17	0	Yersinia	0
	Meat from pig - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 10273:2003 Yersinia	50	0	Yersinia	0
	Meat from pig - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	17	0	Yersinia	0
	Meat from pig - meat products - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	13	0	Yersinia	0
	Meat from pig - meat products - Unspecified - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	10	0	Yersinia	0
	Meat from pig - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Microbiological tests	45	3	Yersinia enterocolitica	3
	Meat from pig - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	ISO 10273:2003 Yersinia	1	0	Yersinia	0
	Meat from pig - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	7	3	Yersinia enterocolitica	3
	Meat from pig - minced meat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	PCR	4	0	Yersinia	0
	Meat from wild boar - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Unspecified	2	0	Yersinia	0

FOODBORNE OUTBREAKS TABLES

Foodborne Outbreaks: summarized data

		Outbreak strenght	Strong			Weak			
Causative agent	Food vehicle	N outbreaks	N human cases	N hospitalized	N deaths	N outbreaks	N human cases	N hospitalized	N deaths
Bacillus cereus	Turkey meat and products thereof	1	26	0	0				
	Cereal products including rice and seeds/pulses (nuts, almonds)	1	7	0	0				
	Unknown					3	53	0	0
Brucella	Unknown					1	2	1	0
Campylobacter	Milk	2	17	1	0				
	Unknown					131	331	61	0
Campylobacter jejuni	Milk	14	204	25	0				
Clostridium perfringens	Mixed food	2	107	0	0				
	Meat and meat products	2	7	0	0				
Cryptosporidium	Unknown					3	8	0	0
Flavivirus	Milk	1	13	1	0				
Giardia	Unknown					7	15	1	0
Hepatovirus A	Fruit, berries and juices and other products thereof	1	5	4	1				
	Unknown					6	19	11	0
Histamine	Fish and fish products	1	5	0	0				
	Mixed food	1	4	0	0				
Listeria monocytogenes	Unknown					1	2	2	0
Marine biotoxins - ciguatoxin	Fish and fish products	1	15	2	0				
Norovirus	Bakery products	1	126	1	0				
	Mixed food	2	47	1	0				
	Unknown					17	134	10	0
Orthohepevirus A (former Hepatitis E virus)	Unknown					6	12	1	0
Salmonella	Unknown					14	86	37	0
Salmonella Enteritidis	Eggs and egg products	3	36	16	2				
	Bakery products	2	58	18	0				
	Mixed food	2	62	8	0				
	Unknown					72	265	62	0
Salmonella Kottbus	Eggs and egg products	1	4	4	0				
	Pig meat and products thereof	1	51	19	0				
Salmonella Livingstone	Pig meat and products thereof	1	14	7	0				
Salmonella Other serovars	Unknown					11	36	14	0
Salmonella Typhimurium	Other, mixed or unspecified poultry meat and products thereof	1	2	0	0				
	Unknown					22	96	23	0
Salmonella Typhimurium other	Pig meat and products thereof	1	4	2	0				

Causative agent	Food vehicle	Outbreak strenght	Strong				Weak			
			N outbreaks	N human cases	N hospitalized	N deaths	N outbreaks	N human cases	N hospitalized	N deaths
Salmonella Typhimurium, monophasic - DT 120	Pig meat and products thereof		1	31	11	0				
Salmonella Typhimurium, monophasic - DT 193	Pig meat and products thereof		1	72	21	0				
Shigella	Unknown						1	2	0	0
Staphylococcal enterotoxins	Unknown						2	15	12	0
Staphylococcus aureus	Milk		1	10	1	0				
	Cereal products including rice and seeds/pulses (nuts, almonds)		1	21	10	0				
	Mixed food		1	12	0	0				
Unknown	Unknown						28	161	7	0
Virus	Unknown						1	22	0	0
VTEC O157	Bovine meat and products thereof		1	15	14	1				
VTEC, unspecified	Milk		1	12	3	0				
	Unknown						10	22	1	0
Yersinia enterocolitica	Unknown						4	9	0	0

Strong Foodborne Outbreaks: detailed data

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Bacillus cereus	Not Available	BVL_2017_0013	General	Turkey meat and products thereof	canapes with turkey, canapes with ham, salmon canapes, vital wraps with vegetables	Product-tracing investigations;Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans;Descriptive epidemiological evidence	Residential institution (nursing home or prison or boarding school)	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Germany	Unknown	N_A	1	26	unk	0
		BVL_2017_0023	Household	Cereal products including rice and seeds/pulses (nuts, almonds)	rice with various ingredients: mixed vegetables with curry, almonds, coconut, cashews, sauce - Veg Korma; Chicken with mango curry sauce	Descriptive environmental evidence;Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent;Descriptive epidemiological evidence	Household	Take-away or fast-food outlet	Unknown	Inadequate chilling	N_A	1	7	0	0
Campylobacter	Not Available	BVL_2017_0009	Household	Milk	raw milk	Descriptive epidemiological evidence	Household	Household	Germany	Inadequate heat treatment	N_A	1	3	0	0
		BVL_2017_0034	General	Milk	raw milk	Descriptive epidemiological evidence	Farm	Farm	Germany	Unknown	N_A	1	14	1	0
Campylobacter jejuni	Not Available	BVL_2017_0002	General	Milk	raw milk for consumption after heat treatment	Descriptive epidemiological evidence	Household	Household	Germany	Unprocessed contaminated ingredient;Inadequate heat treatment	N_A	1	33	5	0
		BVL_2017_0015	General	Milk	raw milk from automatic distribution system - in combination with cocoa powder	Descriptive epidemiological evidence	Farm	Automatic distribution system for raw milk	Germany	Unknown	N_A	1	3	0	0
		BVL_2017_0022	General	Milk	raw milk	Descriptive epidemiological evidence	Farm	Automatic distribution system for raw milk	Germany	Unknown	N_A	1	6	3	0

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Campylobacter jejuni	Not Available	BVL_2017_0024	General	Milk	raw milk from automatic distribution system	Descriptive epidemiological evidence	Household	Household	Germany	Inadequate heat treatment;Inadequate chilling	N_A	1	5	0	0
		BVL_2017_0027	General	Milk	raw milk	Product-tracing investigations;Descriptive epidemiological evidence	Household	Household	Germany	Inadequate heat treatment;Inadequate chilling	N_A	1	7	1	0
		BVL_2017_0032	General	Milk	insufficiently heated raw milk	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans;Descriptive epidemiological evidence	Farm	Unknown	Germany	Inadequate heat treatment	N_A	1	24	0	0
		BVL_2017_0033	General	Milk	insufficiently heated raw milk	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans;Descriptive epidemiological evidence	Farm	Unknown	Germany	Inadequate heat treatment	N_A	1	8	0	0
		BVL_2017_0037	General	Milk	raw milk	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans;Descriptive epidemiological evidence	Household	Household	Germany	Inadequate heat treatment	N_A	1	16	1	0
		BVL_2017_0038	General	Milk	raw milk	Descriptive environmental evidence;Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans;Descriptive epidemiological evidence	Farm	Automatic distribution system for raw milk	Germany	Cross-contamination	N_A	1	6	0	0

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Campylobacter jejuni	Not Available	BVL_2017_0047	General	Milk	raw milk	Descriptive epidemiological evidence	Household	Automatic distribution system for raw milk	Germany	Unknown	N_A	1	47	8	0
		BVL_2017_0054	General	Milk	raw milk	Descriptive epidemiological evidence	Farm	Automatic distribution system for raw milk	Germany	Unknown	N_A	1	19	2	0
		BVL_2017_0055	General	Milk	raw milk	Descriptive epidemiological evidence	Household	Household	Germany	Inadequate heat treatment	N_A	1	15	2	0
		BVL_2017_0092	General	Milk	raw milk	Descriptive epidemiological evidence	Household	Unknown	Germany	Unknown	N_A	1	8	3	0
		BVL_2017_0108	General	Milk	raw milk	Detection of causative agent in food chain or its environment - Symptoms and onset of illness pathognomonic to causative agent;Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans	Farm	Farm	Germany	Other contributory factor	N_A	1	7	0	0
Clostridium perfringens	Bacillus cereus	BVL_2017_0028	General	Mixed food	prepared goulash	Descriptive environmental evidence;Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent;Descriptive epidemiological evidence	School or kindergarten	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Germany	Storage time/temperature abuse;Inadequate heat treatment;Inadequate chilling	N_A	1	102	0	0

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Clostridium perfringens	Not Available	BVL_2017_0008	General	Meat and meat products	burrito beef (baked pancake stuffed with cooked minced meat, rice, onions and beans); Beef (cooked minced meat)	Descriptive environmental evidence;Detection of causative agent in food chain or its environment - Symptoms and onset of illness pathognomonic to causative agent;Descriptive epidemiological evidence	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Germany	Storage time/temperature abuse;Inadequate heat treatment	N_A	1	4	0	0
		BVL_2017_0095	Household	Meat and meat products	venison goulash	Descriptive environmental evidence	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Unknown	Inadequate chilling	N_A	1	3	unk	0
		BVL_2017_0109	General	Mixed food	dish containing pork, tomato sauce, mushrooms and other vegetables	Descriptive environmental evidence;Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Germany	Storage time/temperature abuse;Inadequate chilling	N_A	1	5	0	0
Flavivirus	Not Available	BVL_2017_0018	General	Milk	raw goat's milk and soft cheese made from pasteurized goat's milk	Descriptive environmental evidence;Descriptive epidemiological evidence	Household	Others	Germany	Inadequate heat treatment	N_A	1	13	1	0
Hepatovirus A	Not Available	BVL_2017_0059	General	Fruit, berries and juices and other products thereof	strawberry yogurt tarts	Descriptive epidemiological evidence	Household	Unknown	Netherlands	Unknown	N_A	1	5	4	1

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Histamine	Not Available	BVL_2017_0011	Household	Mixed food	salad with tuna	Descriptive environmental evidence;Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent;Descriptive epidemiological evidence	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Germany	Storage time/temperature abuse	N_A	1	4	unk	0
		BVL_2017_0039	General	Fish and fish products	tuna filet	Descriptive environmental evidence;Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent;Descriptive epidemiological evidence	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Unknown	Unknown	Other contributory factor	N_A	1	5	0	0
Marine biotoxins - ciguatoxin	Not Available	BVL_2017_0029	General	Fish and fish products	two-spot red snapper	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent;Descriptive epidemiological evidence	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Unknown	Unknown	Unknown	N_A	1	15	2	0
Norovirus	Not Available	BVL_2017_0041	General	Mixed food	fried zucchini (with sauce)	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Unknown	Infected food handler	N_A	1	7	0	0
		BVL_2017_0056	General	Bakery products	bread, bread rolls	Descriptive epidemiological evidence	Canteen or workplace catering	Processing plant	Germany	Infected food handler	N_A	1	126	1	0

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Norovirus	Not Available	BVL_2017_0058	General	Mixed food	half bread rolls with different toppings	Descriptive epidemiological evidence	Canteen or workplace catering	Canteen or workplace catering	Germany	Infected food handler	N_A	1	40	1	0
Salmonella Enteritidis	Not Available	BVL_2017_0001	General	Mixed food	sauce for cabbage roulade	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans;Descriptive epidemiological evidence	Residential institution (nursing home or prison or boarding school)	Residential institution (nursing home or prison or boarding school)	Germany	Unknown	N_A	1	10	6	0
		BVL_2017_0012	General	Eggs and egg products	tiramisu	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent;Detection of causative agent in food chain or its environment - Symptoms and onset of illness pathognomonic to causative agent;Descriptive epidemiological evidence	Household	Household	Germany	Unknown	N_A	1	22	10	1
		BVL_2017_0026	General	Eggs and egg products	tiramisu	Product-tracing investigations;Descriptive environmental evidence;Descriptive epidemiological evidence	Household	Others	Germany	Unprocessed contaminated ingredient;Storage time/temperature abuse;Inadequate chilling	The causative agent is Salmonella Enteritidis PT 8/7	1	7	2	0
		BVL_2017_0061	General	Bakery products	quark and coconut cake, pudding with chocolate, cake (Eierschecke)	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans;Descriptive epidemiological evidence	Household	Processing plant	Germany	Unknown	N_A	1	34	12	0

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Salmonella Enteritidis	Not Available	BVL_2017_0065	General	Bakery products	fruit cake with cream; chocolate topping containing raw eggs	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans;Detection of causative agent in food chain or its environment - Symptoms and onset of illness pathognomonic to causative agent;Descriptive epidemiological evidence	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Household	Germany	Infected food handler;Cross-contamination	N_A	1	24	6	0
		BVL_2017_0081	General	Mixed food	spinach spaetzle, mushroom cream sauce	Descriptive environmental evidence;Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans;Descriptive epidemiological evidence	School or kindergarten	School or kindergarten	Germany	Cross-contamination	N_A	1	52	2	0
		BVL_2017_0107	General	Eggs and egg products	eggs	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans	Household	Household	Netherlands	Inadequate heat treatment	N_A	1	7	4	1
Salmonella Kottbus	Not Available	BVL_2017_0112	General	Pig meat and products thereof	raw ham	Descriptive epidemiological evidence;Analytical epidemiological evidence	Multiple places of exposure in more than one country	Unknown	Germany	Unknown	N_A	1	51	19	0

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Salmonella Kottbus	Not Available	BVL_2017_0113	General	Eggs and egg products	quail eggs	Descriptive epidemiological evidence;Analytical epidemiological evidence	Multiple places of exposure in more than one country	Unknown	Germany	Unknown	N_A	1	4	4	0
Salmonella Livingstone	Not Available	BVL_2017_0082	General	Pig meat and products thereof	raw sausage (Bauernsalami)	Descriptive epidemiological evidence	Others	Processing plant	Germany	Infected food handler	N_A	1	14	7	0
Salmonella Typhimurium	Not Available	BVL_2017_0004	Household	Other, mixed or unspecified poultry meat and products thereof	duck breast with bacon	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans;Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent;Descriptive epidemiological evidence	Household	Unknown	Unknown	Other contributory factor;Inadequate heat treatment	N_A	1	2	0	0
Salmonella Typhimurium other	Not Available	BVL_2017_0020	General	Pig meat and products thereof	sausage (filled pork bladder)	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans;Descriptive epidemiological evidence	Household	Household	Germany	Inadequate heat treatment;Cross-contamination	N_A	1	4	2	0
Salmonella Typhimurium, monophasic - DT 120	Not Available	BVL_2017_0064	General	Pig meat and products thereof	minced meat (pork), prepared	Product-tracing investigations;Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans;Descriptive epidemiological evidence	Household	Unknown	Germany	Unknown	N_A	1	31	11	0

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Salmonella Typhimurium, monophasic - DT 193	Not Available	BVL_2017_0076	General	Pig meat and products thereof	fresh raw sausage with garlic / raw pork / dish with sliced pork "Hubertus"	Product-tracing investigations;Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans;Descriptive epidemiological evidence	Household	Slaughterhouse	Germany	Unprocessed contaminated ingredient	N_A	1	72	21	0
Staphylococcus aureus	Not Available	BVL_2017_0035	General	Milk	long -life whole milk	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans	School or kindergarten	School or kindergarten	Germany	Infected food handler	N_A	1	10	1	0
		BVL_2017_0036	General	Mixed food	potato salad	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent;Descriptive epidemiological evidence	Residential institution (nursing home or prison or boarding school)	Residential institution (nursing home or prison or boarding school)	Germany	Inadequate chilling	N_A	1	12	unk	0
		BVL_2017_0075	General	Cereal products including rice and seeds/pulses (nuts, almonds)	vegetarian pasta dish	Descriptive environmental evidence;Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Germany	Storage time/temperature abuse;Inadequate heat treatment	N_A	1	21	10	0

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
VTEC O157	Not Available	BVL_2017_0111	General	Bovine meat and products thereof	mixed minced meat (beef and pork)	Descriptive epidemiological evidence;Analytical epidemiological evidence	Multiple places of exposure in more than one country	Unknown	Germany	Unknown	N_A	1	15	14	1
VTEC, unspecified	Campylobacter	BVL_2017_0052	General	Milk	raw milk	Descriptive epidemiological evidence	Canteen or workplace catering	Canteen or workplace catering	Germany	Inadequate heat treatment	N_A	1	12	3	0

Weak Foodborne Outbreaks: detailed data

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Bacillus cereus	Not Available	BVL_2017_0138	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	3	53	0	0
Brucella	Not Available	BVL_2017_0140	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	1	2	1	0
Campylobacter	Not Available	BVL_2017_0134	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	131	331	61	0
Cryptosporidium	Not Available	BVL_2017_0143	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	3	8	0	0
Giardia	Not Available	BVL_2017_0142	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	7	15	1	0
Hepatovirus A	Not Available	BVL_2017_0145	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	6	19	11	0
Listeria monocytogenes	Not Available	BVL_2017_0135	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	1	2	2	0
Norovirus	Not Available	BVL_2017_0144	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	17	134	10	0
Orthohepevirus A (former Hepatitis E virus)	Not Available	BVL_2017_0146	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	6	12	1	0
Salmonella	Not Available	BVL_2017_0133	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	14	86	37	0
Salmonella Enteritidis	Not Available	BVL_2017_0131	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	72	265	62	0
Salmonella Other serovars	Not Available	BVL_2017_0132	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	11	36	14	0
Salmonella Typhimurium	Not Available	BVL_2017_0130	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	22	96	23	0
Shigella	Not Available	BVL_2017_0141	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	1	2	0	0

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Staphylococcal enterotoxins	Not Available	BVL_2017_0139	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	2	15	12	0
Unknown	Not Available	BVL_2017_0148	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	18	125	7	0
		BVL_2017_0149	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	9	36	unk	0
		BVL_2017_0150	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	1	unk	unk	0
Virus	Not Available	BVL_2017_0147	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	1	22	0	0
VTEC, unspecified	Not Available	BVL_2017_0137	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	10	22	1	0
Yersinia enterocolitica	Not Available	BVL_2017_0136	Not Available	Unknown	N_A	Unknown	Not Available	Not Available	Not Available	Not Available	N_A	4	9	0	0

ANTIMICROBIAL RESISTANCE TABLES FOR CAMPYLOBACTER

Table Antimicrobial susceptibility testing of Campylobacter coli in Pigs - fattening pigs

Sampling Stage: Slaughterhouse | Sampling Type: animal sample - caecum | Sampling Context: Monitoring

Sampler: Official sampling | Sampling Strategy: Objective sampling | Programme Code: AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ciprofloxacin	Erythromycin	Gentamicin	Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**	**8**	**2**	**16**	**4**	**2**
	Lowest limit	**0.12**	**1**	**0.12**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**128**	**16**	**64**	**16**	**64**
	N of tested isolates	**247**	**247**	**247**	**247**	**247**	**247**
MIC	**N of resistant isolates**	**133**	**31**	**0**	**130**	**185**	**183**
<=0.12		73		2			
0.25		36		12			
<=0.5							58
0.5		5		112			
<=1			142				
1				112		1	6
2			54	9	5	8	
4		5	17		54	53	2
8		52	3		55	9	11
16		53	1		3	8	16
>16		23				168	
32					15		30
64					44		51
>64					71		73
128			2				
>128			28				

Table Antimicrobial susceptibility testing of Campylobacter jejuni in Pigs - fattening pigs

Sampling Stage: Slaughterhouse | Sampling Type: animal sample - caecum | Sampling Context: Monitoring

Sampler: Official sampling | Sampling Strategy: Objective sampling | Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ciprofloxacin	Erythromycin	Gentamicin	Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**	**4**	**2**	**16**	**4**	**1**
	Lowest limit	**0.12**	**1**	**0.12**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**128**	**16**	**64**	**16**	**64**
	N of tested isolates	**8**	**8**	**8**	**8**	**8**	**8**
MIC	**N of resistant isolates**	**3**	**0**	**0**	**3**	**1**	**3**
<=0.12		2					
0.25		3		1			
<=0.5							4
0.5				2			
<=1			7				
1				5		2	1
2			1			2	
4		2			2	3	
8					3		
16		1				1	
32					1		
64							1
>64					2		2

ANTIMICROBIAL RESISTANCE TABLES FOR SALMONELLA

Table Antimicrobial susceptibility testing of Salmonella 1,4,[5],12:i:- in Meat from pig - carcase

Sampling Stage: Slaughterhouse

Sampling Type: food sample - carcase swabs

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
MIC	**N of resistant isolates**	**10**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**10**	**8**	**0**	**0**
<=0.03										8					
0.03							7								
0.064							2			2					
<=0.25				10										3	10
<=0.5									10						
0.5					10		1							6	
<=1								7							
1														1	
<=2													2		
2								1							
<=4											5				
4			2					1							
<=8						8									
8			8					1			5				
16						2									
>64		10											8		
>1024												10			

Table Antimicrobial susceptibility testing of Salmonella 1,4,[5],12:i:- in Meat from pig - minced meat

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**
<=0.03										1					
0.03							1								
<=0.25				1										1	1
<=0.5									1						
0.5					1										
<=1								1							
<=4											1				
<=8						1									
8			1												
>64		1											1		
>1024												1			

Table Antimicrobial susceptibility testing of Salmonella 1,4,[5],12:i:- in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**
MIC	**N of resistant isolates**	**10**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**11**	**10**	**1**	**3**
<=0.03										12					
0.03							9								
0.064							2								
0.12							1								
<=0.25				11										7	9
<=0.5									12						
0.5				1	10									4	
<=1		1						12							
1					2										
<=2													2		
2														1	
<=4											7				
4			2												
<=8						10									
8		1	8								4				
16			2								1				
32												1			
>32															3
>64		10											10		
128						1									
>128						1									
>1024												11			

Table Antimicrobial susceptibility testing of Salmonella 1,4,[5],12:i:- in Pigs - fattening pigs - unspecified

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
MIC	**N of resistant isolates**	**7**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**7**	**7**	**0**	**0**
<=0.03										5					
0.03							6								
0.064										2					
<=0.25				7										1	7
<=0.5									6						
0.5					7		1							6	
<=1								7							
1									1						
<=4											3				
4			1												
<=8						5									
8			6								2				
16						1					2				
32						1									
>64		7											7		
>1024												7			

Table Antimicrobial susceptibility testing of Salmonella Derby in Meat from pig - carcase

Sampling Stage: Slaughterhouse

Sampling Type: food sample - carcase swabs

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON pnl2

Analytical Method:

Country of Origin: Germany

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid	Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
	Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
	ECOFF	**0.125**	**0.5**	**0.5**	**8**	**2**	**2**	**0.064**	**1**	**0.125**	**32**
	Lowest limit	**0.064**	**0.25**	**0.064**	**0.5**	**0.25**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
	Highest limit	**32**	**64**	**64**	**64**	**128**	**128**	**2**	**16**	**16**	**128**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
<=0.015								1			
0.064										1	
0.25				1					1		
1							1				
8					1						
16						1					1
>32		1									
>64			1								

Table Antimicrobial susceptibility testing of Salmonella Derby in Meat from pig - carcase

Sampling Stage: Slaughterhouse

Sampling Type: food sample - carcase swabs

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
MIC	**N of resistant isolates**	**1**	**0**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
<=0.015							4								
<=0.03										7					
0.03							2								
<=0.25				5										3	5
<=0.5									7						
0.5				1	5									3	2
<=1		4						5							
1					1		1							1	
<=2													5		
2		1						1							
<=4											6				
4		1	1										2		
>4				1											
<=8						5						1			
8			5												
16			1		1	1						3			
>16								1							
32						1						3			
>64		1													
>128											1				

Table Antimicrobial susceptibility testing of Salmonella Derby in Meat from pig - minced meat

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.03										1					
0.03							1								
<=0.25				1											1
<=0.5									1						
0.5					1									1	
<=1		1													
<=2													1		
2								1							
<=4											1				
<=8						1									
8			1												
64												1			

Table Antimicrobial susceptibility testing of Salmonella Derby in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**
<=0.015							2								
<=0.03										2					
<=0.25				2										1	1
<=0.5									2						
0.5					2									1	
<=1								2							
<=2													1		
2		1													
<=4											1				
8			2								1				
16						1						1			
>32															1
64						1									
>64		1											1		
>1024												1			

Table Antimicrobial susceptibility testing of Salmonella Derby in Pigs - fattening pigs - unspecified

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.015							2								
<=0.03										5					
0.03							3								
0.064							1			1					
<=0.25				6										2	5
<=0.5									6						
0.5					6									4	1
<=1		3						5							
<=2													6		
2		3						1							
<=4											6				
4			1												
<=8						3									
8			4												
16			1			3						5			
32												1			

Table Antimicrobial susceptibility testing of Salmonella enterica subsp. enterica rough in Meat from pig - carcase

Sampling Stage: Slaughterhouse

Sampling Type: food sample - carcase swabs

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
MIC	**N of resistant isolates**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**2**	**0**	**2**
<=0.03										2					
0.03							3								
0.064							1			2					
<=0.25				4											2
<=0.5									3						
0.5					2									2	
<=1								4							
1					2									2	
<=2													1		
2									1						
<=4											2				
4		1											1		
<=8						4									
8			2								2				
16			2												
>32															2
>64		3											2		
>1024												4			

Table Antimicrobial susceptibility testing of Salmonella enterica subsp. enterica rough in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**
<=0.015							1								
<=0.03										1					
<=0.25				1											1
<=0.5									1						
0.5					1									1	
<=1								1							
<=4											1				
<=8						1									
8			1												
>64		1											1		
>1024												1			

Table Antimicrobial susceptibility testing of Salmonella enterica, subspecies enterica in Meat from pig - carcase

Sampling Stage: Slaughterhouse

Sampling Type: food sample - carcase swabs

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.03										1					
0.064							1								
<=0.25				1											1
<=0.5									1						
0.5					1									1	
<=1								1							
4		1											1		
<=8												1			
8											1				
16			1			1									

Table Antimicrobial susceptibility testing of Salmonella enterica, subspecies enterica in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**
<=0.03										1					
0.03							1								
<=0.25				1											1
<=0.5									1						
0.5					1									1	
2								1							
<=4											1				
<=8						1									
8			1												
>64		1											1		
>1024												1			

Table Antimicrobial susceptibility testing of Salmonella enterica, subspecies enterica in Pigs - fattening pigs - unspecified

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.03										1					
0.03							1								
<=0.25				1										1	1
<=0.5									1						
0.5					1										
<=1		1						1							
<=2													1		
<=4											1				
<=8						1						1			
8			1												

Table Antimicrobial susceptibility testing of Salmonella Goldcoast in Pigs - fattening pigs - unspecified

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.03										1					
0.03							1								
<=0.25				1											
<=0.5									1						
0.5					1									1	
<=1		1						1							
1															1
<=2													1		
<=4											1				
<=8						1									
8			1												
16												1			

Table Antimicrobial susceptibility testing of Salmonella Livingstone in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**
<=0.03										1					
0.03							1								
<=0.25				1											
<=0.5									1						
0.5					1										
<=1								1							
1														1	
2		1													
<=4											1				
<=8						1									
8			1												
>32															1
>64													1		
>1024												1			

Table Antimicrobial susceptibility testing of Salmonella London in Meat from pig - carcase

Sampling Stage: Slaughterhouse

Sampling Type: food sample - carcase swabs

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.03										1					
0.03							1								
<=0.25				1										1	
<=0.5									1						
0.5					1										1
<=1		1													
<=2													1		
2								1							
<=4											1				
<=8						1									
8			1												
32												1			

Table Antimicrobial susceptibility testing of Salmonella London in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.03										1					
0.03							1								
<=0.25				1										1	
<=0.5									1						
0.5					1										1
<=1		1						1							
<=2													1		
<=4											1				
<=8						1									
8			1												
32												1			

Table Antimicrobial susceptibility testing of Salmonella Ohio in Meat from pig - carcase

Sampling Stage: Slaughterhouse

Sampling Type: food sample - carcase swabs

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**1**	**0**	**1**
<=0.03										1					
0.03							1								
<=0.25				1											
0.5					1									1	
<=4											1				
4			1												
<=8						1									
8								1	1						
>32															1
64													1		
>64		1													
>1024												1			

Table Antimicrobial susceptibility testing of Salmonella Rissen in Meat from pig - carcase

Sampling Stage: Slaughterhouse

Sampling Type: food sample - carcase swabs

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.03										1					
0.03							1								
<=0.25				1											1
0.5					1										
<=1								1							
1									1					1	
<=2													1		
2		1													
<=4											1				
<=8						1						1			
8			1												

Table Antimicrobial susceptibility testing of Salmonella Typhimurium in Meat from pig - carcase

Sampling Stage: Slaughterhouse

Sampling Type: food sample - carcase swabs

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**
MIC	**N of resistant isolates**	**5**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**5**	**5**	**1**	**2**
<=0.015							1								
<=0.03										5					
0.03							3								
0.064							2			1					
<=0.25				5										2	4
<=0.5									6						
0.5				1	6									1	
<=1								5							
1														2	
<=2													1		
2		1						1						1	
<=4											5				
4			1												
<=8						2						1			
8			4												
16			1			1					1				
32													1		
>32															2
64						1									
>64		5											4		
>128						2									
>1024												5			

Table Antimicrobial susceptibility testing of Salmonella Typhimurium in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
MIC	**N of resistant isolates**	**9**	**0**	**0**	**0**	**4**	**1**	**0**	**0**	**0**	**1**	**8**	**9**	**3**	**4**
<=0.015							1								
<=0.03										9					
0.03							7								
0.064							1			1					
<=0.25				8										5	4
0.25							1								
<=0.5									10						
0.5				2	10									1	1
<=1		1						10							
1														1	1
<=2													1		
2														3	
<=4											7				
<=8						5						1			
8			7								1				
16			3			1					1	1			
32													1		
>32															4
64													2		
>64		9											6		
>128						4					1				
>1024												8			

Table Antimicrobial susceptibility testing of Salmonella Typhimurium in Pigs - fattening pigs - unspecified

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**
MIC	**N of resistant isolates**	**6**	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**0**	**0**	**6**	**5**	**0**	**1**
<=0.03										5					
0.03							6								
0.064										1					
<=0.25				5										4	5
<=0.5									5						
0.5				1	6									1	
<=1								5							
1									1					1	
<=2													1		
<=4											4				
<=8						2									
8			6					1			2				
>32															1
64													4		
>64		6											1		
>128						4									
>1024												6			

ANTIMICROBIAL RESISTANCE TABLES FOR INDICATOR ESCHERICHIA COLI

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from pig - minced meat

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	8	16	0.25	0.5	16	0.064	2	2	0.125	16	64	8	1	2
	Lowest limit	1	2	0.25	0.25	8	0.015	1	0.5	0.03	4	8	2	0.25	0.25
	Highest limit	64	64	4	16	128	8	16	32	16	128	1024	64	8	32
	N of tested isolates	99	99	99	99	99	99	99	99	99	99	99	99	99	99
MIC	N of resistant isolates	22	0	0	0	10	3	1	0	0	1	20	30	0	21
<=0.015							82								
<=0.03										99					
0.03							14								
<=0.25				99										81	59
0.25							2								
<=0.5									72						
0.5					99		1							17	19
<=1		2						97							
1									24					1	
<=2													58		
2		24						1	3						
<=4											93				
4		49	33					1					11		
<=8						85						65			
8		2	59								3				
16			7			4					2	14			
32						3							1		
>32															21
64						2							15		
>64		22											14		

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**99**	**99**	**99**	**99**	**99**	**99**	**99**	**99**	**99**	**99**	**99**	**99**	**99**	**99**
MIC	**N of resistant isolates**	**22**	**0**	**0**	**0**	**10**	**3**	**1**	**0**	**0**	**1**	**20**	**30**	**0**	**21**
128						1					1				
>128						4									
>1024												20			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from bovine animals - fresh

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON pnl2

Analytical Method:

Country of Origin: Germany

AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**		**Not Available**	**Not Available**	**Not Available**	**Not Available**
Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
ECOFF	**0.125**	**0.25**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.5**	**0.064**	**0.5**	**0.125**	**32**
Lowest limit	**0.064**	**0.25**	**0.064**	**0.064**	**0.5**	**0.25**	**0.12**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
Highest limit	**32**	**64**	**64**	**64**	**64**	**128**	**128**	**128**	**2**	**16**	**16**	**128**
N of tested isolates	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**
MIC **N of resistant isolates**	**13**	**14**	**1**	**1**	**1**	**13**	**1**	**1**	**0**	**1**	**0**	**0**
<=0.015									11			
<=0.03											12	
0.03									2			
<=0.064			12									
0.064									1		2	
<=0.12							8	1		1		
0.12	1											
<=0.25						1						
0.25			1				2	1		12		
0.5							1					
1						4				1		
2		1		1		1						2
4	1				7	5		1				4
8	4				6	2						4
16	3	2				1						3
32	2	4			1							1

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available		Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	0.25	8	0.5	0.5	0.5	0.064	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.064	0.5	0.25	0.12	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	64	128	128	128	2	16	16	128
	N of tested isolates	14	14	14	14	14	14	14	14	14	14	14	14
MIC	N of resistant isolates	13	14	1	1	1	13	1	1	0	1	0	0
>32		3											
64			2										
>64			5										

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from bovine animals - fresh

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**
MIC	**N of resistant isolates**	**14**	**2**	**14**	**13**	**3**	**5**	**0**	**1**	**0**	**4**	**9**	**10**	**0**	**7**
<=0.015							8								
<=0.03										14					
0.03							1								
<=0.25														9	6
<=0.5									7						
0.5					1		1							4	1
<=1								14							
1					5				5					1	
<=2			2										3		
2				1	1				1						
<=4											9				
4			3		5								1		
>4				13											
<=8						11						4			
8			5				1								
>8							3								
16			2		2						1	1			
32			1						1				1		
>32															7
64			1			2							4		
>64		14											5		
>128						1					4				
>1024												9			

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

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON pnl2

Analytical Method:

Country of Origin: Germany

AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid	Ertapenem	Imipenem	Meropenem	Temocillin
Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
ECOFF	**0.125**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.064**	**0.5**	**0.125**	**32**
Lowest limit	**0.064**	**0.25**	**0.064**	**0.5**	**0.25**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
Highest limit	**32**	**64**	**64**	**64**	**128**	**128**	**2**	**16**	**16**	**128**
N of tested isolates	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
MIC / **N of resistant isolates**	**5**	**5**	**0**	**2**	**5**	**0**	**0**	**0**	**0**	**0**
<=0.015							3			
<=0.03									5	
0.03							1			
<=0.064			3							
0.064							1			
<=0.12						2		3		
0.12			1							
0.25			1			3		2		
1					1					
2					3					
4	1			1	1					1
8	1			2						4
16				2						
32	3									
64		3								
>64		2								

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

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**
MIC	**N of resistant isolates**	**87**	**12**	**5**	**5**	**18**	**22**	**6**	**8**	**0**	**17**	**75**	**90**	**0**	**64**
<=0.015							174								
<=0.03										241					
0.03							44								
0.064							2			1					
0.12							4								
<=0.25				237										178	150
0.25							7								
<=0.5									161						
0.5					237		2							59	26
<=1		5						232							
1							2		59					5	2
<=2			7										120		
2		59			4		1	4	14						
<=4											214				
4		87	75		1			6	5				30		
>4				5											
<=8						213						142			
8		4	129								7		2		
>8							6								
16		1	19			11			1		4	24	1		
32			6			1			1		3	1	2		
>32									1						64
64			1			3							26		

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**	**242**
MIC	**N of resistant isolates**	**87**	**12**	**5**	**5**	**18**	**22**	**6**	**8**	**0**	**17**	**75**	**90**	**0**	**64**
>64		86	5										61		
128						5					1				
>128						9					13				
>1024												75			

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

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON pnl2

Analytical Method:

Country of Origin: Germany

AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**		**Not Available**	**Not Available**	**Not Available**	**Not Available**
Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
ECOFF	**0.125**	**0.25**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.5**	**0.064**	**0.5**	**0.125**	**32**
Lowest limit	**0.064**	**0.25**	**0.064**	**0.064**	**0.5**	**0.25**	**0.12**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
Highest limit	**32**	**64**	**64**	**64**	**64**	**128**	**128**	**128**	**2**	**16**	**16**	**128**
N of tested isolates	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**
MIC / **N of resistant isolates**	**227**	**231**	**5**	**5**	**25**	**227**	**3**	**3**	**4**	**0**	**0**	**0**
<=0.015									169			
<=0.03											225	
0.03									45			
<=0.064	2		189									
0.064									13		6	
<=0.12							113	4		92		
0.12	2		35						1			
<=0.25						1						
0.25			2				94	7	3	130		
0.5	1		1			3	9	1		9		
1	1	1		3		48						
2	2	2			3	64						1
4	13	1		1	115	33		2				72
8	34	9			88	51		1				127
16	77	4			20	26						28
32	55	40			2	3						3

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available		Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	0.25	8	0.5	0.5	0.5	0.064	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.064	0.5	0.25	0.12	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	64	128	128	128	2	16	16	128
	N of tested isolates	231	231	231	231	231	231	231	231	231	231	231	231
MIC	N of resistant isolates	227	231	5	5	25	227	3	3	4	0	0	0
>32		44											
64			61			2	2						
>64			113			1							

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

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**
MIC	**N of resistant isolates**	**231**	**24**	**231**	**223**	**78**	**104**	**1**	**56**	**0**	**60**	**127**	**144**	**0**	**106**
<=0.015							100								
<=0.03										226					
0.03							25								
0.064							2			5					
0.12							4								
<=0.25														149	94
0.25							24								
<=0.5									107						
0.5					8		27							69	28
<=1								230							
1				1	57		4		57					13	3
<=2			3										69		
2				2	54		2		11						
<=4											127				
4			42		28			1	3				18		
>4				228											
<=8						140						76			
8			124		37		7		1		27				
>8							36								
16			38		47	13			10		17	23	1		
32			7			2			22		3	5	1		
>32									20						106
64			6			7					1		34		

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**	**231**
MIC	**N of resistant isolates**	**231**	**24**	**231**	**223**	**78**	**104**	**1**	**56**	**0**	**60**	**127**	**144**	**0**	**106**
>64		231	11										108		
128						30					2				
>128						39					54				
>1024												127			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON pnl2

Analytical Method:

Country of Origin: Germany

AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
ECOFF	**0.125**	**0.25**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.5**	**0.064**	**0.5**	**0.125**	**32**
Lowest limit	**0.064**	**0.25**	**0.064**	**0.064**	**0.5**	**0.25**	**0.12**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
Highest limit	**32**	**64**	**64**	**64**	**64**	**128**	**128**	**128**	**2**	**16**	**16**	**128**
N of tested isolates	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**
MIC **N of resistant isolates**	**2**	**3**	**1**	**1**	**2**	**3**	**1**	**1**	**0**	**0**	**0**	**0**
<=0.015									1			
<=0.03											2	
0.03									1			
<=0.064			1									
0.064									1		1	
<=0.12							1					
0.12	1		1									
0.25	1									2		
0.5							1			1		
1		1		1		1						
4		1			1	1		1				
8												2
16					1	1						1
32					1							
>32	1											
>64		1										

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**
MIC	**N of resistant isolates**	**73**	**4**	**3**	**3**	**17**	**12**	**3**	**7**	**0**	**5**	**67**	**85**	**0**	**51**
<=0.015							154								
<=0.03										206					
0.03							41								
0.064							3			3					
0.12										1					
<=0.25				207										171	135
0.25							1								
<=0.5									144						
0.5					207		6							36	24
<=1	6							205							
1					1		1		50					3	
<=2		14											100		
2	64		1					2	9						
<=4											192				
4	64	62	1				1	2	3				24		
>4			1												
<=8						180						121			
8	3	106		1		1	1				8		1		
>8							2								
16		24		1	13				3		5	21			
32					3							1	1		
>32									1						51
64					5								21		

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**	**210**
MIC	**N of resistant isolates**	**73**	**4**	**3**	**3**	**17**	**12**	**3**	**7**	**0**	**5**	**67**	**85**	**0**	**51**
>64		73	4										63		
128						6									
>128						3					5				
>1024												67			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER CARBA MON pnl

Analytical Method:

Country of Origin: Germany

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid	Ertapenem	Imipenem	Meropenem	Temocillin
	ECOFF	**0.125**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.064**	**0.5**	**0.125**	**32**
	Lowest limit	**0.064**	**0.25**	**0.064**	**0.5**	**0.25**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
	Highest limit	**32**	**64**	**64**	**64**	**128**	**128**	**2**	**16**	**16**	**128**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
0.25								1			
1										1	
4									1		
8		1									
32			1		1						
64							1				
>64				1							
128						1					1

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER CARBA MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**
<=0.015							1								
<=0.25															1
0.5														1	
<=1								1							
1									1	1					
<=4											1				
>4				1											
8			1												
16					1										
64													1		
>64		1													
>128						1									
>1024												1			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER ESBL MON pnl2

Analytical Method:

Country of Origin: Germany

AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**		**Not Available**	**Not Available**	**Not Available**	**Not Available**
Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
ECOFF	**0.125**	**0.25**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.5**	**0.064**	**0.5**	**0.125**	**32**
Lowest limit	**0.064**	**0.25**	**0.064**	**0.064**	**0.5**	**0.25**	**0.12**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
Highest limit	**32**	**64**	**64**	**64**	**64**	**128**	**128**	**128**	**2**	**16**	**16**	**128**
N of tested isolates	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**
MIC **N of resistant isolates**	**139**	**154**	**23**	**23**	**31**	**151**	**24**	**24**	**3**	**2**	**0**	**0**
<=0.015									111			
<=0.03											143	
0.03									33			
<=0.064	2		111									
0.064									7		11	
<=0.12							69	2		58		
0.12	13		20						3			
0.25	4						45	6		86		
0.5	4			2		3	8			8		
1	4	7	1	10		32	1	2		2		
2	2	8		7	4	53		9				2
4	13	9		1	62	30		5				42
8	28	8		2	57	16		7				82
16	28	7			14	16						26
32	25	24			7	4						2
>32	31											

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available		Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	0.25	8	0.5	0.5	0.5	0.064	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.064	0.5	0.25	0.12	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	64	128	128	128	2	16	16	128
	N of tested isolates	154	154	154	154	154	154	154	154	154	154	154	154
MIC	N of resistant isolates	139	154	23	23	31	151	24	24	3	2	0	0
64			45			6							
>64			46			4							

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER ESBL MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**
MIC	**N of resistant isolates**	**154**	**27**	**154**	**151**	**35**	**59**	**2**	**16**	**0**	**47**	**109**	**79**	**0**	**91**
<=0.015							74								
<=0.03										153					
0.03							20								
0.064							1			1					
0.12							3								
<=0.25														106	53
0.25							9								
<=0.5									93						
0.5					3		8							46	8
<=1								152							
1				7	39		3		41					2	1
<=2			1										63		
2				10	45				4						1
<=4											94				
4			34	6	28			2	2				12		
>4				131											
<=8						113						35			
8			82		21		7				7				
>8							29								
16		1	10		18	6			3		6	10	2		
32			2			4			5		1		3		
>32									6						91
64		1	6			3					2		23		

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**	**154**
MIC	**N of resistant isolates**	**154**	**27**	**154**	**151**	**35**	**59**	**2**	**16**	**0**	**47**	**109**	**79**	**0**	**91**
>64		152	19										51		
128						12					3				
>128						16					41				
512												1			
>1024												108			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs - unspecified

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON pnl2

Analytical Method:

Country of Origin: Germany

AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Not Available**	**Not Available**	**Not Available**		**Not Available**	**Not Available**	**Not Available**	**Not Available**
Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
ECOFF	**0.125**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.5**	**0.064**	**0.5**	**0.125**	**32**
Lowest limit	**0.064**	**0.25**	**0.064**	**0.5**	**0.25**	**0.12**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
Highest limit	**32**	**64**	**64**	**64**	**128**	**128**	**128**	**2**	**16**	**16**	**128**
N of tested isolates	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
MIC / **N of resistant isolates**	**5**	**5**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.015								4			
<=0.03										5	
0.03								1			
<=0.064			5								
<=0.12							2		3		
0.25						3			1		
0.5					2				1		
2					1						
4				4	2						2
8	2			1							1
16	1	1									2
32	2	2									
64		2									

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs - unspecified

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**
MIC	**N of resistant isolates**	**66**	**2**	**5**	**3**	**22**	**15**	**1**	**3**	**0**	**10**	**68**	**83**	**0**	**54**
<=0.015							163								
<=0.03										225					
0.03							46								
0.064							3			2					
0.12							1								
<=0.25				222										188	137
0.25							3								
<=0.5									154						
0.5					224		5							35	32
<=1		4						224							
1									50					4	4
<=2			5										124		
2		61			2		1	2	20						
<=4											208				
4		89	79		1			1	3				19		
>4				5											
<=8						189						136			
8		7	123				1				8		1		
>8							4								
16			18			16					1	21	1		
32		1				1						2	1		
>32															54
64			1			2							36		

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**	**227**
MIC	**N of resistant isolates**	**66**	**2**	**5**	**3**	**22**	**15**	**1**	**3**	**0**	**10**	**68**	**83**	**0**	**54**
>64		65	1										45		
128						8					2				
>128						11					8				
>1024												68			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs - unspecified

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON pnl2

Analytical Method:

Country of Origin: Germany

AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**		**Not Available**	**Not Available**	**Not Available**	**Not Available**
Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
ECOFF	**0.125**	**0.25**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.5**	**0.064**	**0.5**	**0.125**	**32**
Lowest limit	**0.064**	**0.25**	**0.064**	**0.064**	**0.5**	**0.25**	**0.12**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
Highest limit	**32**	**64**	**64**	**64**	**64**	**128**	**128**	**128**	**2**	**16**	**16**	**128**
N of tested isolates	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**
MIC **N of resistant isolates**	**150**	**162**	**18**	**18**	**29**	**160**	**18**	**18**	**3**	**1**	**1**	**1**
<=0.015									126			
<=0.03											157	
0.03									28			
<=0.064	2		121									
0.064									5		4	
<=0.12							78	2		60		
0.12	10		22						3			
<=0.25						1						
0.25	4		1				52	9		89		
0.5	2			2		1	3			12	1	
1	3	3		2		54						
2	2	7		11	8	44		5		1		
4	22	8			75	28		10				51
8	27	5		2	50	18						94
16	40	9			13	11		2				11
32	28	45			6	3						5

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available		Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	0.25	8	0.5	0.5	0.5	0.064	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.064	0.5	0.25	0.12	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	64	128	128	128	2	16	16	128
	N of tested isolates	162	162	162	162	162	162	162	162	162	162	162	162
MIC	N of resistant isolates	150	162	18	18	29	160	18	18	3	1	1	1
>32		22											
64			47		1	6	1						
>64			38			4							
128							1		1				1

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs - unspecified

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**
MIC	**N of resistant isolates**	**162**	**26**	**162**	**157**	**26**	**63**	**1**	**22**	**1**	**54**	**104**	**78**	**0**	**70**
<=0.015							82								
<=0.03										160					
0.03							16								
0.064							1			1					
0.12							4								
<=0.25														120	72
0.25							12								
<=0.5									86						
0.5					5		9			1				38	18
<=1								159							
1				3	56		2		44					4	1
<=2			3										71		
2				8	49			2	10						1
<=4											97				
4			37	7	15		1	1	4				12		
>4				144											
<=8						129						47			
8			81		22		6		1		4		1		
>8							29								
16			15		15	7			3		7	9	3		
32			8			1			6			1	1		
>32									8						70
64			8			2					2	1	25		

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**	**162**
MIC	**N of resistant isolates**	**162**	**26**	**162**	**157**	**26**	**63**	**1**	**22**	**1**	**54**	**104**	**78**	**0**	**70**
>64		162	10										49		
128						10					6				
>128						13					46				
>1024												104			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from pig - fresh

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON pnl2

Analytical Method:

Country of Origin: Germany

AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**		**Not Available**	**Not Available**	**Not Available**	**Not Available**
Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
ECOFF	**0.125**	**0.25**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.5**	**0.064**	**0.5**	**0.125**	**32**
Lowest limit	**0.064**	**0.25**	**0.064**	**0.064**	**0.5**	**0.25**	**0.12**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
Highest limit	**32**	**64**	**64**	**64**	**64**	**128**	**128**	**128**	**2**	**16**	**16**	**128**
N of tested isolates	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**
MIC **N of resistant isolates**	**17**	**19**	**2**	**2**	**4**	**19**	**2**	**2**	**0**	**0**	**0**	**0**
<=0.015									16			
<=0.03											19	
0.03									3			
<=0.064	1		13									
<=0.12							7			5		
0.12	1		4									
0.25							4	4		14		
0.5				1			2					
1		1		1		7						
2	1	1				4		1				
4	3				12	3		1				6
8	3				3	5						12
16	4	2			3							1
32	4	6										
>32	2											
64		3			1							

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available		Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	0.25	8	0.5	0.5	0.5	0.064	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.064	0.5	0.25	0.12	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	64	128	128	128	2	16	16	128
	N of tested isolates	19	19	19	19	19	19	19	19	19	19	19	19
MIC	N of resistant isolates	17	19	2	2	4	19	2	2	0	0	0	0
>64			6										

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from pig - fresh

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON

Analytical Method:

Country of Origin: Germany

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**
MIC	**N of resistant isolates**	**19**	**2**	**19**	**19**	**0**	**4**	**0**	**1**	**0**	**4**	**14**	**10**	**0**	**11**
<=0.015							14								
<=0.03										19					
0.03							1								
<=0.25														15	7
0.25							1								
<=0.5									12						
0.5														4	1
<=1								19							
1				1	6				4						
<=2													9		
2				1	7				2						
<=4											15				
4			4		3										
>4				17											
<=8						18						4			
8			13		2		1								
>8							2								
16					1	1						1			
32			1						1						
>32															11
64													4		
>64		19	1										6		
>128											4				

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**16**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**
MIC	**N of resistant isolates**	**19**	**2**	**19**	**19**	**0**	**4**	**0**	**1**	**0**	**4**	**14**	**10**	**0**	**11**
>1024												14			

OTHER ANTIMICROBIAL RESISTANCE TABLES

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic - E. faecalis in Cattle (bovine animals) - calves (under 1 year)

Sampling Stage: Slaughterhouse | Sampling Type: animal sample - caecum | Sampling Context: Monitoring

Sampler: Official sampling | Sampling Strategy: Objective sampling | Programme Code: OTHER AMR MON

Analytical Method:

Country Of Origin:Germany

	AM substance	Ampicillin	Chloramphenicol	Ciprofloxacin	Daptomycin	Erythromycin	Gentamicin	Linezolid	Quinupristin/Dalfopristin	Teicoplanin	Tetracycline	Vancomycin
	ECOFF	**4**	**32**	**4**	**4**	**4**	**32**	**4**	**1**	**2**	**4**	**4**
	Lowest limit	**0.5**	**4**	**0.12**	**0.25**	**1**	**8**	**0.5**	**0.5**	**0.5**	**1**	**1**
MIC	**Highest limit**	**64**	**128**	**16**	**32**	**128**	**1024**	**64**	**64**	**64**	**128**	**128**
<=0.25					6							
0.25				1								
<=0.5		14						13	1	42		
0.5				15	8							
<=1						17					10	27
1		18		26	24			15	5			
2		10			4	6		14	8			14
<=4			13									
4						3			10			1
<=8							26					
8			19						14			
16							13		3		2	
32							1		1		2	
64			9								13	
128			1								12	
>128						16					3	
>1024							2					

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic - E. faecalis in Pigs - fattening pigs - unspecified

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country Of Origin:Germany

	AM substance	Ampicillin	Chloramphenicol	Ciprofloxacin	Daptomycin	Erythromycin	Gentamicin	Linezolid	Quinupristin/Dalfopristin	Teicoplanin	Tetracycline	Vancomycin
	ECOFF	**4**	**32**	**4**	**4**	**4**	**32**	**4**	**1**	**2**	**4**	**4**
	Lowest limit	**0.5**	**4**	**0.12**	**0.25**	**1**	**8**	**0.5**	**0.5**	**0.5**	**1**	**1**
MIC	**Highest limit**	**64**	**128**	**16**	**32**	**128**	**1024**	**64**	**64**	**64**	**128**	**128**
<=0.5		2							1	40		
0.5				1								
<=1						16					8	21
1		26		30	11			10				
2		12		9	27			30				18
<=4			3									
4					2	7			1			1
<=8							10					
8			26						18			
16			2				26		19			
32							3		1		2	
64			3								5	
128			6								20	
>128						17					5	
>1024							1					

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic - E. faecium in Cattle (bovine animals) - calves (under 1 year)

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country Of Origin:Germany

	AM substance	Ampicillin	Chloramphenicol	Ciprofloxacin	Daptomycin	Erythromycin	Gentamicin	Linezolid	Quinupristin/Dalfopristin	Teicoplanin	Tetracycline	Vancomycin
	ECOFF	**4**	**32**	**4**	**4**	**4**	**32**	**4**	**1**	**2**	**4**	**4**
	Lowest limit	**0.5**	**4**	**0.12**	**0.25**	**1**	**8**	**0.5**	**0.5**	**0.5**	**1**	**1**
MIC	**Highest limit**	**64**	**128**	**16**	**32**	**128**	**1024**	**64**	**64**	**64**	**128**	**128**
<=0.25					4							
0.25				1								
<=0.5		10							4	44		
0.5				5	2							
<=1						5					31	38
1		13		12	5			13	8	5		
2		13		5	13	4		32	8			10
<=4			25									
4		5		18	23	10		4	28			1
<=8							42					
8		2	16	6	2	14			1			
16			2	1		2	4					
>16				1								
32		2	6			1	2					
64		2				1						
>64		2										
128											11	
>128						12					7	
>1024							1					

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic - E. faecium in Pigs - fattening pigs - unspecified

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country Of Origin:Germany

	AM substance	Ampicillin	Chloramphenicol	Ciprofloxacin	Daptomycin	Erythromycin	Gentamicin	Linezolid	Quinupristin/Dalfopristin	Teicoplanin	Tetracycline	Vancomycin
	ECOFF	**4**	**32**	**4**	**4**	**4**	**32**	**4**	**1**	**2**	**4**	**4**
	Lowest limit	**0.5**	**4**	**0.12**	**0.25**	**1**	**8**	**0.5**	**0.5**	**0.5**	**1**	**1**
MIC	**Highest limit**	**64**	**128**	**16**	**32**	**128**	**1024**	**64**	**64**	**64**	**128**	**128**
<=0.5		1							3	35		
0.5				3	4							
<=1						7					30	36
1		6		18	4			1	1	5		
2		22		12	5	7		39	3			3
<=4			19									
4		6		2	26	9			33			1
<=8							30					
8		5	21	4	1	13						
16				1		1	10					
32						3					1	
64											8	
128											1	

Specific monitoring of ESBL-/AmpC-/carbapenemase-producing bacteria and specific monitoring of carbapenemase-producing bacteria, in the absence of isolate detected

Programme Code	Matrix Detailed	Zoonotic Agent Detailed	Sampling Strategy	Sampling Stage	Sampling Details	Sampling Context	Sampler	Sample Type	Sampling Unit Type	Sample Origin	Comment	Total Units Tested	Total Units Positive
CARBA MON	Cattle (bovine animals) - calves (under 1 year)	Escherichia coli, non-pathogenic, unspecified	Objective sampling	Slaughterhouse	N_A	Monitoring	Official sampling	animal sample - caecum	slaughter animal batch	Germany	N_A	349	0
	Meat from bovine animals - fresh	Escherichia coli, non-pathogenic, unspecified	Objective sampling	Retail	N_A	Monitoring	Official sampling	food sample - meat	single (food/feed)	Germany	N_A	399	0
	Meat from pig - fresh	Escherichia coli, non-pathogenic, unspecified	Objective sampling	Retail	N_A	Monitoring	Official sampling	food sample - meat	single (food/feed)	Germany	N_A	454	0
	Pigs - fattening pigs - unspecified	Escherichia coli, non-pathogenic, unspecified	Objective sampling	Slaughterhouse	N_A	Monitoring	Official sampling	animal sample - caecum	slaughter animal batch	Germany	N_A	354	0

European Food Safety Authority

Latest Transmission set

Table Name	Last submitted dataset transmission date
Antimicrobial Resistance	24-Jul-2018
Esbl	24-Jul-2018
Animal Population	23-Jul-2018
Disease Status	23-Jul-2018
Food Borne Outbreaks	25-Jul-2018
Prevalence	21-Jan-2019

Germany, Text Forms 2017

Table of contents

1. Institutions and Laboratories involved in zoonoses monitoring and reporting

In Germany, monitoring and surveillance of zoonotic agents in the food chain are carried out by collaboration of the county level authorities of the Laender and the federal institutions. County level authorities are responsible for collecting the samples. Surveillance samples are collected risk based while for specific monitoring programs random sampling is applied. Food samples are examined by accredited regional state laboratories. If zoonotic agents are isolated they may be sent to the National Reference Laboratories for respective agents for further typing and/or resistance testing. However, species identification, serotyping or further analyses can also be carried out by regional laboratories themselves.

Data on zoonotic agents in animals stem from a multitude of sources including monitoring programs on the national level, surveillance and diagnostic investigations for diverse reasons. Large differences can be observed between different zoonotic species and different animal populations. Those are therefore outlined in the respective chapters. Data on zoonotic agents in animals are mostly provided by the Laender authorities that in turn collect them from different regional bodies that are in charge of surveilling these agents. The primary collection point for data often is the county level that is in charge of the control of contagious diseases and farm inspections. However, data may also originate from animal health services and other regional institutions that have been tasked with the surveillance of certain pathogens.

Concerning food data, the greatest part originates from investigations carried out in the regional accredited labs. Their investigations are largely based on surveillance legislation, the so called general official instruction surveillance demanding the risk based examination of five food samples per 1000 inhabitants on an annual basis. The categorization of risk in this respect is carried out by the regional authorities that also decide on the matrix/agent combinations to be investigated.

2. Animal population

1. Sources of information and the date(s) (months, years) the information relates to

Data on cattle, pigs, sheep and goats were collected from the Federal Statistical Office. They relate to November 2017. Data on poultry were collected in the framework of the *Salmonella* Control Programs according to Reg. (EC) No. 2016/2003.

2. Definitions used for different types of animals, herds, flocks and holdings as well as the production types covered

3. National changes of the numbers of susceptible population and trends

While the number of cattle holdings and cattle has been declining in the last two years, the numbers of pigs and sheep are constant. However, the numbers of holdings with pigs are also declining, while the numbers of holdings with sheep has been increasing slightly.

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

Animal density differs regionally. While most cattle are housed in Bavaria, pigs and poultry are mostly

housed in the western part of Lower Saxony.
Herd sizes differ with larger herds frequently being located in the east of Germany and smaller herd sizes found in the south.

3. General evaluation: *Salmonella*

1. History of the disease and/or infection in the country

Non typhoidal Salmonellosis in humans is a notifiable disease in Germany. The incidence of the reported cases has dropped from nearly 77,000 cases in 2001 to 13,490 in 2017 (https://survstat.rki.de, accessed 16.02.2018). After years of continuous decline, cases increased again for the first time in 2017 from 12970 in 2016 to 13,490 in 2017. Over the years, *S*. Enteritidis was by far the most frequently identified serovar in human cases and it is only since few years that *S*. Typhimurium has caught up. Other serovars are fairly infrequent. Among those, *S*. Infantis in recent years has been more frequent than others.

2. Evaluation of status, trends and relevance as a source for humans

While control of *Salmonella* in *Gallus gallus* and turkey flocks has been successful in recent years, the prevalence of *Salmonella* in pig farms is constant. In cattle, an increase in the number of disease outbreaks in farms was recorded in 2017, as compared to 2016.
Considering meat, the prevalence of *Salmonella* was lowest in beef, followed by turkey meat, pork and broiler meat. *Salmonella* were also found in meat from wild boars. Minced meat from pigs and cattle was rarely positive for *Salmonella* (0.56 % and 0.9 % respectively).
Given the fact that minced meat is also consumed raw in Germany even a low percentage of positive samples may contribute to the overall disease burden.

3. Any recent specific action in the Member State or suggested for the European Union

None

4. Additional information

In Germany Salmonellosis is notifiable in cattle. However, the number of observed cases is fairly low. No systematic screening policy is in place and outbreaks on farms are typically detected through the investigation of clinical disease in cattle.
In pigs, *Salmonella* control in Germany is largely based on serological screening for antibodies of pigs at slaughter. Based on these data herds are categorized in three categories namely: Kat I, low risk and less than 20 % serologically positive samples; Kat II, medium risk and 20-40 % positive samples; and Kat III, high risk and more than 40 % positive samples. Surveys carried out in 2011 and 2015 found that the risk of animals being culturally positive at farm or at slaughter was substantially higher for Kat II and KIII pigs than for Kat I pigs. However, we also found *Salmonella* in Kat I herds, indicating that these herds should not be considered free of *Salmonella*.
In poultry, European legislation to control *Salmonella* based on Reg. (EC) No. 2160/2003 is fully implemented in Germany.

4. General evaluation: *Campylobacter*

1. History of the disease and/or infection in the country

Campylobacteriosis in humans is a notifiable disease in Germany. The number of reported cases has ranged between 50.000 and 75.000 cases during the last 15 years. Most human cases are caused by *Campylobacter jejuni* (around 80 % of specified cases) and *C. coli.* As in other countries *C. jejuni* is frequently found in broilers and turkeys and their respective meat but also in cattle. In contrast, *C. coli* is mostly found in pigs. Other species of *Campylobacter* have a negligible share of the human infections.

2. Evaluation of status, trends and relevance as a source for humans

During the last 5 years Campylobacteriosis cases among humans have increased. However, in 2017 the reported number of cases decreased to 69437 compared to 74051 in 2016 (https://survstat.rki.de, accessed 16.02.2018). Based on the comparison of timely trends of detection of *Campylobacter* in broiler meat and source attribution studies, broiler meat is assumed to be an important source of *Campylobacter* for human infections. However, recent outbreaks of *C. coli* infections linked to minced pork and *C. jejuni* originating from raw milk underlined that it is not only broiler meat that causes the risk for humans.

3. Any recent specific action in the Member State or suggested for the European Union

In 2016 a specific annual monitoring started for quantitative data on *Campylobacter* on broiler carcasses and broiler meat at retail in order to get more detailed quantitative data on the contamination of broiler meat.

4. Additional information

No control plans are in place in Germany for *Campylobacter* in poultry, cattle or pigs. From monitoring results of recent years it is evident that the bacteria can frequently be found in the caeca of all farm animal species. However, the prevalence on meat is highest in broilers, followed by turkey meat. In bovine or pig meat *Campylobacter* is generally infrequent. However, due to consumption of raw meat (especially minced meat) and raw milk even low prevalences can contribute to the occurrence of Campylobacteriosis in humans.

5. General evaluation: Shigatoxin producing *E. coli*

1. History of the disease and/or infection in the country

Infections with Shiga-toxin producing *E. coli* are by far less frequent than Salmonellosis and Campylobacteriosis in Germany. In recent years the number of reported cases ranged between 1500 and 2000 with an exceptional peak in 2011 caused by a large outbreak associated with sprouted seeds.

2. Evaluation of status, trends and relevance as a source for humans

Since 2012 the number of reported human cases has been slowly increasing. The reason for this increase is not known.

3. Any recent specific action in the Member State or suggested for the European Union

4. Additional information

Ruminants are the main known reservoir. This includes cattle, small ruminants and likewise wild ruminants.

6. General evaluation: *Listeria monocytogenes*

1. History of the disease and/or infection in the country

Listeriosis in humans in Germany is an infrequent condition. However, due to the high associated morbidity and mortality, it is considered an important zoonosis. In 2017, 770 cases were reported (https://survstat.rki.de, accessed 16.02.2018). The number of annually reported cases in humans has been increasing since the implementation of the infection protection law in 2001.

2. Evaluation of status, trends and relevance as a source for humans

Listeria monocytogenes is observed in different kinds of foods. It is regularly detected in raw food from animal origin, dairy products made from raw milk, and smoked or graved fishery products.
In 2017, a specific monitoring program was carried out investigating *L. monocytogenes* in in fermented sausages (see chapter L. m. in food).

3. Any recent specific action in the Member State or suggested for the European Union

4. Additional information

Investigations in animals are not carried out systematically. Therefore, data on *Listeria monocytogenes* in animals should not be considered prevalence data.
In animals, clinical Listeriosis is a reportable disease in Germany and between 140 and 220 cases have been reported annually between 2012 and 2016 (FLI 2017).

7. General evaluation: *Yersinia*

1. History of the disease and/or infection in the country

Yersiniosis caused by *Y. enterocolitica* is among the most frequent human bacterial enteric diseases. In 2017 2.586 cases in humans were reported (https://survstat.rki.de, accessed 16.02.2018). The number of annual cases decreased consistently from 2001 to 2014. In 2015 and 2016 there was a slight transient increase to 2754 and 2770 cases.

2. Evaluation of status, trends and relevance as a source for humans

3. Any recent specific action in the Member State or suggested for the European Union

4. Additional information

In animals no specific monitoring programs for *Y. enterocolitica* and *Y. pseudotuberculosis* are in place. Investigations in food, mainly meat, are carried out in the framework of official food controls i.e. risk based.

8. General evaluation: Tuberculosis (*M. bovis*)

1. History of the disease and/or infection in the country

Tuberculosis (TB) in cattle caused by *Mycobacterium (M.) bovis / M. caprae* is a notifiable disease. In 1996, Germany was declared officially free from bovine tuberculosis (Commission decision 97/76/EC), which means that at least 99.9% of the cattle holdings per year are TB-free. Since then this status has been maintained.

2. Evaluation of status, trends and relevance as a source for humans

As bovine Tuberculosis is rare, its relevance for public health is negligible. In 2017, three cattle herds were identified positive for *M. bovis* and animals were culled.

3. Any recent specific action in the Member State or suggested for the European Union

In 2017 the national regulation on bovine Tuberculosis (Verordnung zum Schutz gegen die Tuberkulose des Rindes) was updated. In now covers infections of cattle caused by *M. bovis, M. tuberculosis, M. caprae, M. microti* and *M. africanum*.

9. General evaluation: *Brucella*

1. History of the disease and/or infection in the country

In 2017 40 cases of Brucellosis were reported in humans in Germany (https://survstat.rki.de, accessed 16.02.2018). Generally, most of the reported cases are assumed to have been acquired abroad. However, domestic infections are also observed.

Germany is free from Brucellosis of cattle, sheep and goats. This status is controlled by routine serological investigations of cattle, sheep and goat herds. For sheep and goats a sampling scheme is in place. In cattle a census sample is carried out. No mandatory sampling is carried out in pigs. Pigs are tested when meant to be exported or included in an AI-station. However there is a specific monitoring in one province (Land) for outdoor pigs.

2. Evaluation of status, trends and relevance as a source for humans

The number of human cases has been more or less stable in recent years. No indication of specific potential sources for the domestic infections is identified.
Brucellosis in pigs caused by *Brucella suis* is occasionally reported. In 2017 3 pig herds were reported positive for *Brucella suis*. No Brucellosis was detected in cattle and small ruminants.

3. Any recent specific action in the Member State or suggested for the European Union

4. Additional information

Monitoring of Brucellosis in animals is carried out by the regional state or contract laboratories using serological methods. Usually an ELISA is used for milk, serum or plasma samples of cattle. In sheep and goats the Rose-Bengal-Test (RBT) or the complement fixation test are used according to the prescription of the „Manual of Diagnostic Tests and Vaccines for Terrestrial Animals“ of OIE.

10. General evaluation: Trichinella

1. History of the disease and/or infection in the country

Trichinellosis cases occur only sporadically in humans in Germany and mostly originate from imported raw meat products. In 2017, only 2 cases in humans were observed (https://survstat.rki.de, accessed 16.02.2018). In housed pigs, Trichinella has not been detected for a couple of years. Likewise, horses were free of *Trichinella spp.* in 2017. However, Trichinellosis is still sporadically observed in hunted wild boars.

2. Evaluation of status, trends and relevance as a source for humans

As in recent years Trichinellosis was not observed in housed pigs and horses in 2017. In hunted wild boars 20 out of nearly 270000 tested wild boars were positive for Trichinella. The human cases of Trichinellosis were both assumed to be imported cases.

3. Any recent specific action in the Member State or suggested for the European Union

4. Additional information

All slaughtered pigs and horses in Germany are tested for *Trichinella spp.*. Likewise testing is carried out on farmed and hunted wild boars. Other animal species like foxes are also frequently examined.
However, no *Trichinella* has been found in foxes in recent years
Data on *Trichinella* in pigs, farmed wild boar and horses at slaughter are collected through the Federal Statistical Office (www.destatis.de) and reported in a national report.

Testing of hunted wild boars is done by the veterinary authorities on the county level.

11. General evaluation: *Echinococcus*

1. History of the disease and/or infection in the country

Since 9 November 2004, infections of animals with *Echinococcus spp*. are notifiable in Germany.

2. Evaluation of status, trends and relevance as a source for humans

In 2017 a total of 373 cases of Echinococcosis in foxes were reported to the national competent authority involving all larger federal states albeit at varying frequency. This is within the range of the numbers reported in the years before.

3. Any recent specific action in the Member State or suggested for the European Union

4. Additional information

12. General evaluation: *Toxoplasma*

1. History of the disease and/or infection in the country

Toxoplasmosis is an infrequent disease in humans in Germany with case numbers ranging between 51 and 127 cases per year (https://survstat.rki.de). Likewise, in animals toxoplasmosis is very infrequently reported with between 14 and 27 cases reported annually in the last 5 years.

2. Evaluation of status, trends and relevance as a source for humans

In 2017 *Toxoplasma spp.* was rarely reported in samples from cats, dogs, goats and sheep.

3. Any recent specific action in the Member State or suggested for the European Union

4. Additional information

There is no routine monitoring system for *Toxoplasma* in animals in Germany. Investigations are mainly based on clinical signs. Therefore, the proportion of positive samples should not be interpreted as prevalence.

13. General evaluation: Rabies

1. History of the disease and/or infection in the country

Germany has been officially free of rabies since 2008. The last human case was reported in 2007 and that was an imported case, as were the cases of the previous years. To maintain the status of freedom of disease a large number of animals is annually tested.

In contrast, rabies in insectivores occurs sporadically in Germany.

Rabies surveillance and diagnosis follows international recommendations as laid down in the Manual of Diagnostic Test and Vaccines for Terrestrial Animals (Terrestrial Manual) of the OIE and the national Legislation on rabies control as amended and promulgated on 4 October 2010 (BGBl. I S. 1313).

2. Evaluation of status, trends and relevance as a source for humans

In 2017, 15 cases of bat rabies were reported. In all cases the European Bat Rabies Virus 1 was detected. No cases of rabies in other animals were reported

3. Any recent specific action in the Member State or suggested for the European Union

No further specific measures were taken in 2017.

14. General evaluation: *Staphylococcus* spp.

1. History of the disease and/or infection in the country

Staphylococci have public health relevance for two reasons. One reason is that *S. aureus* is able to produce heat resistant enterotoxins in contaminated foods. The second aspect is associated with multi-resistant of Staphylococcus aureus (MRSA) occurring as an important nosocomial problem in the public health sector especially in hospitals. In farm animals, a certain type of MRSA has been identified in samples from pigs since 2004. However, little is known about earlier times because *S. aureus* is not an important pig pathogen and was therefore not tested for AMR in the past. Since then, MRSA have been detected in all kinds of farm animals including those from organic farms and in meat and raw milk. Likewise, these strains have been found to be widespread among farmers, especially pig farmers. Food however, is currently not a major source of colonization or infection for humans, despite the frequent detection of these bacteria in raw meat.

2. Evaluation of status, trends and relevance as a source for humans

MRSA have been frequently found in livestock in recent years with no clear trends being displayed. As an exception an increase in MRSA prevalence in dairy cattle was reported between 2009/10 and 2014. In 2017 MRSA were specifically investigated in fattening pigs at farm. Results confirmed a high prevalence as reported in earlier years. In humans, livestock associated MRSA continue to be observed more frequently among screening samples than among clinical samples. However, in both types of samples the proportion of the livestock strains increased in recent years.

3. Any recent specific action in the Member State or suggested for the European Union

4. Additional information

No control plans are in place in Germany for MRSA in farm animals. In contrast, bloodstream infections in humans with MRSA are notifiable in Germany.

For each zoonotic agent

: Epidemiological evaluation (trends and sources) over time until recent/current situation for the different relevant matrixes (food, feed, animal). If relevant: the official “disease status” to be specified for the whole country and/or specific regions within the country

: If applicable

15. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* in breeding flocks of *Gallus gallus*

1. Monitoring/Surveillance/Control programmes system

In Germany, control of *Salmonella* in breeding flocks of *Gallus gallus* is based on Reg. (EC) No. 2160/2003 and Reg. (EU) No. 200/2010.

2. Measures in place

Measures in place are according to the respective European legislation

3. Notification system in place to the national competent authority

Positive results of investigations carried out by the food business operators in the framework of quality control have to be reported to the county level.

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

A total of 810 breeding flocks of *Gallus gallus* were examined by the food business operators or the competent authority in 2017. In 18 herds (2.2 %) *Salmonella* was detected. Among those 7 herds 0.9 % of all herds) harboured *S.* Enteritidis (3 herds), *S.* Typhimurium (3 herds) or *S.* Infantis (1 herd).
289 flocks were tested during rearing, 5 of which were positive, including *S.* Typhimurium in two cases and *S.* Infantis in one case.

16. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* in laying hens

1. Monitoring/Surveillance/Control programmes system

In Germany, control of *Salmonella* in laying hens of *Gallus gallus* is based on Reg. (EC) No. 2160/2003 and Reg. (EU) No. 517/2011.

2. Measures in place

Measures in place are according to the respective European legislation.

3. Notification system in place to the national competent authority

Positive findings in examinations carried out on behalf of the food business operator need to be reported to the competent authority.

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

In 2017, 5.715 adult laying hen flocks were examined for *Salmonella*. *Salmonella* was detected in 105 flocks (1.8 %). In 58 (1.0 %) flocks, *S.* Enteritidis (27 flocks) or *S.* Typhimurium (31 flocks) were detected. 654 flocks were tested during the rearing period. 9 flocks were positive for S. Enteritidis (5 flocks) or *S.* Typhimurium (4 flocks).

17. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* in broilers

1. Monitoring/Surveillance/Control programmes system

In Germany, control of *Salmonella* in broilers is based on Reg. (EC) No. 2160/2003 and Reg. (EU) No. 200/2012.

2. Measures in place

Measures in place are according to the respective European legislation

3. Notification system in place to the national competent authority

Positive findings in examinations carried out on behalf of the food business operator need to be reported to the competent authority.

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

In 2017, 24.088 broiler flocks were tested for *Salmonella* by the food business operator or the competent authority.
Of those, 500 (2.1 %) were positive for *Salmonella*. 11 herds (0.05 %) were positive for *S.* Enteritidis (7 flocks) or *S.* Typhimurium (4 flocks).

18. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* in turkeys

1. Monitoring/Surveillance/Control programmes system

In Germany, control of *Salmonella* in turkey flocks is based on Reg. (EC) No. 2160/2003 and Reg. (EU) No. 1190/2012.

2. Measures in place

Measures in place are according to the respective European legislation.

3. Notification system in place to the national competent authority

Positive results of investigations carried out by the food business operators in the framework of quality control have to be reported to the county level.

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

90 adult breeding flocks 32 breeding flocks during the rearing period and 4.681 fattening flocks of turkeys were tested for *Salmonella*. Of the breeding flocks, 2 were positive for *Salmonella* (2.2%). One of those was positive for *S.* Typhimurium, one for *S.* Enteritidis. One of 32 breeding flocks tested during the rearing period, was also positive for *S.* Enteritidis.
Among the fattening flocks 27 (0.6 %) were positive for *Salmonella*. Of those, six were positive for *S.* Typhimurium and six for *S.* Enteritidis.

19. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* in meat

1. Monitoring/Surveillance/Control programmes system

Investigations into the presence of *Salmonella* in meat are carried out in the framework of official food control. Surveillance is risk based and carried out on the county level (see under general description). Specific monitoring programs in 2017 using random sampling were carried out for minced meat from pigs and fermented sausages.

2. Measures in place

Measures in place are according to the respective European legislation.

3. Notification system in place to the national competent authority

Positive results of investigations carried out by the food business operators in the framework of quality control have to be reported to the competent authority.

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

Salmonella spp. was detected in 0.7 % of minced pork, which is lower than in the monitoring programs in 2009 (5.0 %) and 2011 (1.3 %). Minced pork is also eaten raw in Germany, which poses a substantial risk to consumers.
In contrast, no *Salmonella* were detected in fermented sausages.

20. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* in pigs

1. Monitoring/Surveillance/Control programmes system

In pigs monitoring of *Salmonella* is carried out according to the regulation on control of salmonella in pigs from 13 March 2007. Monitoring is based on serological samples examined for *Salmonella* antibodies at slaughter.
In 2017 a specific monitoring was conducted in herds of fattening pigs using boot swab samples and in pigs at slaughter using caecal samples.

2. Measures in place

Herds of fattening pigs are categorized (Kat I to III) according to the proportion of serologically positive samples in their slaughter pigs. Kat I herds have less than 20 % serologically positive samples, herds of Kat II between 20 and 40 5 and Kat III herds have more than 40 % positive samples. The latter have to take action, i.e. perform epidemiological (risk factors) and bacteriological investigations, and to take measures in order to reduce the prevalence of serologically positive pigs at slaughter (e.g. intensified cleaning and disinfection).

3. Notification system in place to the national competent authority

The respective regulation in Germany (regulation on control of salmonella in pigs from 13 March 2007) foresees that all holders of fattening pigs have to ensure serological testing of a predefined part of their pigs for *Salmonella*. Results of the testing have to be reported to the competent authority on request. In case of a proportion of more than 40 % pigs (i.e. Kat III, see above), this finding always has to be reported to the competent authority.

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

In 2017, 7.9 % of the boot swab samples from herds of fattening pigs were positive for *Salmonella*, which is in the range of the results in recent years. At slaughter, 6.1 % of the caecal samples contained *Salmonella*, which is the same proportion as in 2015. Results show that *Salmonella* spp. continue to be prevalent in the German fattening pig population.
In the serological monitoring 2.9 % of herds were categorized as Kat III, 19.0 % as Kat II.

21. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* in cattle

1. Monitoring/Surveillance/Control programmes system

In Germany bovine Salmonellosis is notifiable. However, the number of observed cases is fairly low. No systematic screening policy is in place and outbreaks on farms are typically detected through the investigation of clinical disease in cattle.
Likewise, other examinations of cattle are mainly clinical investigations

2. Measures in place

Bovine herds with clinical Salmonellosis are put under quarantine and a test and removal procedure is applied until herds are certified as negative again

3. Notification system in place to the national competent authority

The notification system is regulated in the regulation on control of salmonella in cattle from 14 November 1991. Cases have to be notified if a minimum of three faecal samples collected within 8 to 15 days proved positive for *Salmonella* by cultural examination or if clinical signs indicative for Salmonellosis are confirmed by bacteriological testing.

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

In 2017, 108 cases of bovine Salmonellosis were reported to the Friedrich Loeffler Institute, which is a slight increase compared to 2016 (101 cases), but a more substantial increase compared to 2015 (66 cases). However, during the last 20 years the number of reported cases always ranged between 66 (2015) and 123 cases (2008).

5. Additional information

As no systematic testing program is in place, prevalence data on *Salmonella* in cattle cannot be provided. However, as the number of recorded outbreaks of Salmonellosis in cattle is limited the prevalence of *Salmonella* in cattle is estimated to be low.

22. Description of Monitoring/Surveillance/Control programmes system: *Campylobacter* in other animals

1. Monitoring/Surveillance/Control programmes system

There is no routine systematic screening procedure in place for *Campylobacter* in animals in Germany.
In 2017, a specific monitoring program was carried out in fattening pigs at slaughter for the acquisition of *Campylobacter coli* isolates from pigs in the framework of commission implementing decision 2013/652/EU.

2. Measures in place
There are no specific measures to control *Campylobacter* in animals in place
3. Notification system in place to the national competent authority
none
4. Results of investigations and national evaluation of the situation, the trends and sources of infection
75.5 % of the caecal samples from pigs at slaughter were positive for *Campylobacter* and most isolates were *Campylobacter coli.* These data confirm the results of the same investigation in 2015.

23. Description of Monitoring/Surveillance/Control programmes system: *Campylobacter* in meat

1. Monitoring/Surveillance/Control programmes system
Meat is tested for *Campylobacter* based on routine surveillance according to Reg (EC) no 882/2004 and in specific monitoring programs. In 2017 specific monitoring was carried out for the detection and quantification of *Campylobacter* in neck skin from broiler carcases at slaughter and fresh chicken meat without skin at retail.
2. Measures in place
3. Notification system in place to the national competent authority
none
4. Results of investigations and national evaluation of the situation, the trends and sources of infection
As in previous years, fresh skinned broiler meat at retail frequently was contaminated with *Campylobacter*. However, no samples contained more than 1000cfu/g. In contrast, 22 % of neck skin samples from carcases at slaughter contained more than 1000 cfu/g.

24. Description of Monitoring/Surveillance/Control programmes system: Verotoxigenic *E. coli* in animals

1. Monitoring/Surveillance/Control programmes system

There is no routine systematic screening procedure in place for VTEC in animals in Germany. Investigations are mostly carried out in the framework of diagnostic investigations.

2. Measures in place

None

3. Notification system in place to the national competent authority

None

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

5. Additional information

Investigations into the presence of VTEC in faeces are carried out according to different methods. Although all examinations are carried out in accredited laboratories and with validated methods, differences in methods may have impacted the results. In general, preenrichment is carried out according to ISO/TS 13136:2012 and subsequent detection/isolation is based on realtime PCR according to ISO/TS 13136:2012 or in house methods.

25. Description of Monitoring/Surveillance/Control programmes system: Shigatoxin-producing *E. coli* in meat

1. Monitoring/Surveillance/Control programmes system

Examinations of meat are carried out in the frame work of food control (see general description).
In 2017, specific monitoring programs were carried out in fresh bovine meat and in minced bovine meat as well as fermented sausages.

2. Measures in place

3. Notification system in place to the national competent authority

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

Fresh bovine meat (veal) and minced bovine meat harboured STEC/VTEC in 6.2 and 3.5 % of samples respectively. Fermented sausages displayed a low prevalence of VTEC/STEC (1.7 %). However, as in some cases minced beef and fermented sausages are consumed without further heat treatment, they have to be considered a potential source of infection for humans.

26. Description of Monitoring/Surveillance/Control programmes system: *Listeria* in food

1. Monitoring/Surveillance/Control programmes system

Listeria monocytogenes in food is investigated in the framework of food control (see general chapter). Qualitative and quantitative investigations are carried out.
In 2017 specific monitoring programs were carried out in minced beef and fermented sausages. Samples were distributed across the provinces based on the regional population.

2. Measures in place

According to Reg. (EC) No. 2073/2005.

3. Notification system in place to the national competent authority

Positive results in own checks of the food business operator need to be reported to the competent authority on county level.

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

In the monitoring programs fermented sausages harboured *Listeria monocytogenes* in 12.2 % of samples. Minced bovine meat intended to be eaten raw was also positive for *Listeria monocytogenes* in 11.2 % of samples.

27. Food-borne Outbreaks

1. System in place for identification, epidemiological investigations and reporting of food-borne outbreaks

In Germany, information on food-borne outbreaks is reported via two parallel systems. The public health authorities in the German Federal States (Laender) are reporting to the Robert Koch Institute (RKI), while the food and veterinary authorities of the Laender are reporting to the Federal Office of Consumer Protection and Food Safety (BVL). The surveillance of infectious diseases in humans is regulated by the „Protection against Infection Act“ (Infektionsschutzgesetz). It assigns the task to compile, evaluate and analyse notification data on human infections at the national level to the RKI. Laboratories are required to report acute infections caused by notifiable pathogens to the local public health office, and physicians are required to report suspected or verified cases of notifiable communicable diseases. Outbreak reporting is integrated into the notification system. In addition to the infectious disease reporting system of the RKI, a reporting system collecting detailed information on food-borne outbreaks is provided by BVL, which covers food-borne outbreaks caused by bacteria, viruses, parasites and toxins. Through this reporting system information from the local food and veterinary authorities, which cooperate with the local public health offices is forwarded directly or via the Laender authorities to BVL following the outbreak investigation. The information on food-borne outbreaks gathered by the two national systems is combined and reported to EFSA.

2. Description of the types of outbreaks covered by the reporting

For infectious disease surveillance, an outbreak is defined as two or more epidemiologically linked cases that meet the reference definition. General and household-related outbreaks are reported. All causative agents listed in the Zoonoses Directive (Directive 2003/99/EC, Annex I) are monitored. Information on place of exposure is routinely collected allowing categorization of the type of outbreak. The system collecting data on food-borne outbreaks, which is provided by BVL also covers outbreaks caused by bacterial toxins and other causative agents (e.g. histamine). Outbreaks are categorized as food-borne with weak evidence, if the local public health office investigating the outbreak provided information on suspected foodstuffs in the electronic outbreak reporting system or indicated that a meal was suspected, but the individual food vehicle was indeterminable. For the purpose of this report, evidence was considered as strong, if the causative agent had been detected in a food vehicle or its component, or in the food chain or its environment, or if a food vehicle had been incriminated by convincing descriptive evidence, or an analytical epidemiological study.

3. National evaluation of the reported outbreaks in the country

a. **Trends in numbers of outbreaks and numbers of human cases involved**

In 2017, 389 outbreaks were reported, 49 of which were outbreaks with strong evidence (2016: 397 outbreaks; 41 strong evidence). The 49 strong evidence outbreaks involved at least 987 cases (2016: 784 cases). In 2017 at least 1.290 cases were reported in weak evidence outbreaks (2016: 1.724 cases).

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

In 17 of the 49 strong evidence outbreaks *Campylobacter* was reported as causative agent, in one case there was VTEC as second agent detected. In 14 of these 17 outbreaks *C. jejuni* was detected. The other outbreaks were caused by *Salmonella* (14) [*S*.Enteritidis (7), *S*. Typhimurium (4)], *Clostridium perfringens* (4), Norovirus (3), *Staphylococcus aureus* (3), *Bacillus cereus* [3 (once *B. cereus* was detected together with another agent)], V*TEC* (2), histamine (2), marine biotoxins - ciguatoxin (1), Flavivirus (1), and Hepatovirus A (1). In 19 of the 49 strong evidence outbreaks “milk” was identified as the food category. In 18 of these outbreaks the identified food vehicle was raw milk. In the other outbreaks „ mixed food” (8),

„pig meat and products thereof" (5), „eggs and egg products" (4), „bakery products" (3), „fish and fish products" (2), „meat and meat products" (2), „cereal products including rice and seeds/pulses (nuts, almonds)" (2), „other, mixed or unspecified poultry meat and products thereof" (1), „fruit, berries and juices and other products thereof" (1), „turkey meat and products thereof" (1)" and „bovine meat and products thereof" (1) were reported as food category. The most frequent combination of causative agent and food vehicle was raw milk and *Campylobacter*. This combination occurred 17 times in strong evidence outbreaks, i.e. 34,7% of all reported strong evidence outbreaks and the combination . Each of the following combinations: „tiramisu" as food vehicle and *Salmonella* as causative agent, „goulash" as food vehicle and *Clostridium perfringens* as causative agent and „tuna" as food vehicle and histamine as causative agent were identified in two of the 49 strong evidence outbreaks (4,1% each).

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

In the 49 strong evidence outbreaks the following „places of origin of problem" were identified: „Household" (10), „restaurant or café or pub or bar or hotel or catering" (8), „automatic distribution system for raw milk" (5), „processing plant" (3), „farm" (2), „residential institution (nursing home or prison or boarding school)" (2), „others" (2), „canteen or workplace catering" (2) or „school or kindergarten" (2). Each of the following places of origin of the problem were reported once: „ slaughterhouse", „take-away or fast food outlet" and „other". In eleven outbreaks „unknown" was reported. For the 18 strong evidence outbreaks related to raw milk (17 to raw cow's milk and one to raw goat's milk/raw goats milk cheese) different „places of origin of problem" were reported: „household" (6) or „canteen or workplace catering" (1) were reported when consumers had consumed raw milk unheated, despite a mandatory warning sign placed at the farm. „Automatic distribution system for raw milk" (5), „unknown" (3) or „farm" (2) was reported when no such warning sign was present or information regarding the presence of a warning sign was missing or cocoa powder bottles were offered on site.
As „place of exposure" the most frequent entries were „household" (19), „restaurant or café or pub or bar or hotel or catering service" (9), „farm" (3), „residential institution (nursing home or prison or boarding school)" (3), „canteen or workplace catering" (3), „school or kindergarten" (3), „multiple places of exposure in more than one country" (3) and „other" (1). In case of the eighteen *Campylobacter* outbreaks related to raw milk: „household" (9), „farm" (8) and **„**canteen or workplace catering" (1) were reported as „place of exposure".

d. **Evaluation of the severity and clinical picture of the human cases**

In 2017, the number of cases was known for all of 49 strong evidence outbreaks (total: 987 cases). At least 169 (17.1%) of the cases were hospitalized (2016: 9.1%). The number of cases which were hospitalized was unknown for four of 49 In strong evidence outbreaks. Four deaths in strong evidence outbreaks and no deaths in weak evidence outbreaks were reported. In weak evidence outbreaks 243 (18.8 %) cases were hospitalized. Strong evidence outbreaks, which were caused by *Salmonella* (14) had 24 cases on average, eight of which were hospitalized (31.7%). In case of the 16 strong evidence *Campylobacter* outbreaks, an average of 14 cases and two hospitalizations per outbreak (11.8%) were reported.

4. Descriptions of single outbreaks of special interest

As one of 49 strong evidence outbreaks in 2017 an outbreak of tick-borne encephalitis (TBE) with 13 cases was reported. This outbreak is associated with consumption of the raw goat's milk and soft cheese made from pasteurized goat's milk. Nine of 13 cases were confirmed by laboratory diagnostics. All patients had consumed raw goat's milk and had not been vaccinated against TBE.

Another strong evidence outbreak with 47 cases of Campylobacteriosis was associated with consumption of raw milk from the automatic distribution system for raw milk on a farm without prior boiling. The animal health of the stock was inconspicuous, the food law hygiene requirements were met. At the delivery point, a sign with the information "boil raw milk before consumption" had beenplaced in a clearly visible place. Portion packs of cocoa and iced coffee powder were offered in a vending machine. These disposable portions for direct mixing and for the preparation of a milk mix beverage have encouraged consumers to directly consume non-heated raw milk on site.

5. Control measures or other actions taken to improve the situation

In DE food-borne outbreaks should be investigated by the local public health authority in collaboration with the local food safety authority. In case of widespread epidemics, investigations are supported by the state health and state food and veterinary authorities or the federal institutions RKI, BVL and BfR. Additionally, RKI and the state health authorities offer training for local public health officers on epidemiological methods required for the investigation of food-borne outbreaks. Support for outbreak investigations by fellows involved in the two-year Postgraduate Training for Applied Epidemiology (PAE) which is hosted at RKI is also available upon request. Since 2009 several national monitoring programmes on zoonotic agents along the food chain have been implemented. Furthermore, Germany operates risk based national coordinated control programmes included in the Federal control plan. In these programmes, standardised collection of data provides a better insight into the situation of food safety.

6. Any specific action decided in the Member State or suggested for the European Union as a whole on the basis of the recent/current situation

Judgment of the Administrative Court of Münster from 01 March 2017 5th (5K 1276/16):
Prohibition of offering PET bottles filled with drink mix powder in close proximity to a raw milk filling station; indirect health hazard (§ 39 Abs 2 LFGB, § 17 Abs 1 Tier-LMHV, § 17 OBG NW, § 18 OBG NW, § 19 OBG NW).
According to this judgment from 1 March 2017, bottles with portioned beverage powders may no longer be sold at the milk filling stations in some regions of Federal State North Rhine-Westphalia.

28. Institutions and laboratories involved in antimicrobial resistance monitoring and reporting

The monitoring of antimicrobial resistance in zoonotic bacteria and commensal bacteria in the food chain in Germany is carried out as a cooperation of the National Reference Laboratory for Antimicrobial Resistance (NRL-AR) at the BfR with the Federal Office of Consumer Protection and Food Safety (BVL) and the institutions of the Laender, i.e. the competent authorities and the regional state laboratories. All resistance testing with the broth microdilution method according to Commission Implementing Decision 2013/652/EU is currently carried out at the BfR, i.e. in the NRL-AR and the NRL for *Campylobacter* that closely cooperates with the NRL-AR. Further NRLs involved in testing and typing are the NRL for coagulasepositive Staphylococci incl. *S. aureus*, the NRL for *Salmonella* and the NRL for *E. coli*.

The primary isolation of the bacteria to be tested, including the selective isolation of ESBL/AmpC or Carbapenemase-forming *E. coli* and the selective isolation of methicillin-resistant *S. aureus* are carried out by the regional laboratories in the Laender. Isolated bacteria are then sent to the NRLs for confirmation, typing and resistance testing.

The BVL is mainly involved in data handling, i.e. collection of the results of the primary isolation cultures from the Laender and writing of a report on the national monitoring program that includes most of the AMR investigations in the framework of the Commission Implementing Decision 2013/652/EU.

29. General Antimicrobial Resistance Evaluation

1. Situation and epidemiological evolution (trends and sources) regarding AMR to critically important antimicrobials (CIAs) over time until recent situation

Resistance to the highest priority critically important antimicrobials is investigated in *Salmonella*, *E. coli* and *S. aureus*. Overall resistance in commensal *E. coli* and *Salmonella* to 3rd Generation cephalosporins was low. Highest values were obtained in broilers and veal calves, but these have decreased in recent years.
Conversely, resistance to the fluoroquinolone ciprofloxacin is high in isolates from the broiler and turkey food chain and so far has not decreased substantially.
Resistance to colistin differs between animal populations with highest levels in *E. coli* from poultry. It is mostly associated with the presence of transferable resistance genes (predominantly *mcr*1). Concerning resistance to colistin, there is currently no clear trend.
Resistance to macrolides in *E. coli* and *Salmonella* is only tested as resistance to azithromycin which is infrequent.

2. Public health relevance of the findings on food-borne AMR in animals and foodstuffs

AMR in bacteria from food animals and food are considered a constant threat to public health. However, the quantification of foodborne bacteria to the overall burden of AMR in humans is currently not possible. It likely differs between zoonotic enteric pathogens such as *Salmonella* and *Campylobacter* that may cause disease in humans and indicator bacteria that as such do not necessarily cause disease but may transport resistance mechanisms from animals to humans that may consequently be transmitted to other, pathogenic bacteria by horizontal gene transfer.

Livestock associated MRSA, according to current knowledge is mostly transferred to humans through direct contact with farm animals, while food does not play a major role in the transmission despite the frequent isolation of MRSA from meat.

3. Recent actions taken to control AMR in food producing animals and food

In 2014 there was a major amendment of the German Drug Act that requires keepers of fattening pigs, fattening calves, broilers and of turkeys to document any antimicrobial treatment in a national data base. Based on the treatment data a farm-specific treatment frequency per animal of one of 6 respective populations is calculated. The populations are:
pigs <30 kg body weight,
fattening pigs >30 kg body weight,
broilers,
turkeys,
calves between 2 weeks and 8 months of age, and
beef cattle >8 months of age.

Based on the reported data the median and the third quartile of the farm specific treatment frequency are calculated and published. Farms with a treatment frequency above the median are asked to discuss with their veterinarian on opportunities for reduction. Farmers with treatment frequencies above the third quartile need to present a report to the competent authority analysing the reason of the high treatment frequency and delivering a plan for the reduction of the high treatment frequency.

In 2018 additionally the Veterinary Pharmacy Regulation was updated requesting additional documentation from veterinarians and declaring susceptibility testing mandatory before using 3rd or 4th generation cephalosporins and fluoroquinolones.

4. Any specific action decided in the Member State or suggestions to the European Union for actions to be taken against food-borne AMR threat

5. Additional information

30. General Description of Antimicrobial Resistance Monitoring

1. General description of sampling design and strategy

Within the framework of the resistance monitoring samples are collected in national active monitoring programs that are decided on annually. These include those programs prescribed by Commission Implementing Decision 2013/652/EU.

2. Stratification procedure per animal population and food category

Stratification of sampling is done according to Commission Implementing Decision 2013/652/EU. Samples are assigned to the Laender according to their respective animal population (for samples collected at farm), slaughter capacity (based on the actual slaughter figures of the year prior to the program design) or consumer population for food samples collected at retail.

3. Randomisation procedure per animal population and food category

4. Analytical method used for detection and confirmation

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU and other relevant documents from the EURL-AR or EFSA.

6. Results of investigation

In 2017 the focus was on the pig and cattle chain. In pigs (caecal samples collected at slaughter), the proportion of fully susceptible isolates of *E. coli* increased compared to 2015 and the proportion of resistant isolates to the individual substances numerically decreased.
In veal calves no major change was observed in comparison to 2015.
Concerning ESBL/AmpC forming *E. coli*, the proportion of positive samples increased slightly in calves under 1 year at slaughter and was unchanged compared to 2015 in pigs. As in 2015, the proportion of positive meat samples was substantially lower than the proportion of positive caecal samples, which is in contrast to the situation in poultry.
Carbapenem-resistant *E. coli* were detected in the framework of the specific monitoring for these bacteria in one faecal sample from a herd of fattening pigs and in one caecal sample from pigs at slaughter whithin the ESBL/AmpC selective monitoring. The latter had also been observed in 2015.
In *Campylobacter coli* from caecal samples of pigs at slaughter, resistance to ciprofloxacin and erythromycin increased slightly compared to 2015. Only few isolates of *C. jejuni* were submitted to the NRL.

7. Additional information

31. General Description of Antimicrobial Resistance Monitoring: Selective isolation of Carbapenem resistant *E. coli*

1. General description of sampling design and strategy

Within the framework of the resistance monitoring samples are collected in national active monitoring programs that are decided on annually. These include programs prescribed by Commission Implementing Decision 2013/652/EU. Selective isolation for carbapenem-resistant *E. coli* were performed in caecal samples from cattle under 1 year and pigs at slaughter, and from pigs at farm and pork and veal at retail.

2. Stratification procedure per animal population and food category

Stratification of sampling is done according to Commission Implementing Decision 2013/652/EU. Samples are assigned to the Laender according to their respective animal population (for samples collected at farm), slaughter capacity (based on the actual slaughter figures of the year prior to the program design) or consumer population for samples collected at retail.

3. Randomisation procedure per animal population and food category

Only one suspicious isolate per sample was tested

4. Analytical method used for detection and confirmation

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU or relevant documents from the EURL-AR or EFSA.

6. Results of investigation

Within the framework of the selective isolation for the carbapenem-resistant *E.coli*, only one positive sample was detected in a caecal sample of a pig at slaughter. All other samples did not contain any carbapenem-resistant *E. coli*.

7. Additional information

32. General Description of Antimicrobial Resistance Monitoring: *Campylobacter* in caecal samples of pigs

1. General description of sampling design and strategy

Prospective sampling was carried out based on a national sampling assigning the samples to be collected proportionally to the Laender.

2. Stratification procedure per animal population and food category

Samples are assigned to the Laender according to their respective animal population (for samples collected at farm), slaughter capacity (based on the actual slaughter figures of the year prior to the program design), i.e. figures from 2015 form the basis of the sampling in 2017.

3. Randomisation procedure per animal population and food category

Only one isolate per sample per species was included in the testing.

4. Analytical method used for detection and confirmation

Samples are analysed according to ISO 10272-1:2006. *Campylobacter* species identity was confirmed at the NRL for *Campylobacter*.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU

6. Results of investigation

Overall, 247 isolates of *Campylobacter coli* from pigs were tested. Of those, only 6.1 % were susceptible to all antimicrobials tested (2015: 5.3 %). As in 2015, highest resistance in 2017 was observed to streptomycin and tetracycline. Resistance to erythromycin was found in 12.7 % of the isolates (2015: 10.7 %). Resistance to ciprofloxacin was higher than in 2015 (53.8 vs. 42.8 %).
Only 8 isolates of *C. jejuni* were tested. They were by far less resistant with 4 isolates being fully susceptible and no resistance to erythromycin.

7. Additional information

33. General Description of Antimicrobial Resistance Monitoring: Commensal *E. coli* in caecal samples of pigs

1. General description of sampling design and strategy

Prospective sampling was carried out based on a national sampling assigning the samples to be collected proportionally to the Laender.

2. Stratification procedure per animal population and food category

Samples are assigned to the Laender according to their respective animal population (for samples collected at farm), slaughter capacity (based on the actual slaughter figures of the year prior to the program design), i.e. figures from 2015 form the basis of the sampling in 2017.

3. Randomisation procedure per animal population and food category

Only one isolate per epidemiological unit was tested.

4. Analytical method used for detection and confirmation

No specifications were made for the method of detection of *E. coli* as prevalence could be assumed to be 100 %. Isolates were confirmed by the NRL-AR using MALDI-TOF.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU.

6. Results of investigation

Overall, 227 Isolates of commensal *E. coli* from caeca of fattening pigs at slaughter were tested. About half (49.3 %) of them were susceptible to all antimicrobials tested which is an increase compared to 2015 (38.2 %). Highest resistance rates were observed to tetracycline, ampicillin, sulfamethoxazole and trimethoprim. For all four antimicrobials, resistance rates had been higher in 2015. Conversely for ciprofloxacin, resistance rates were slightly higher in 2017 (6.6 %) than in 2015 (4.2 %). Resistance to colistin had been absent in 2015 and was observed in 2 isolates in 2017 (0.9 %).

7. Additional information

Commensal *E. coli* were also tested from boot swab samples collected from pigs under 50 kg at farm (n=213). Samples were distributed across the Laender proportionally to their fattening pig population.

34. General Description of Antimicrobial Resistance Monitoring: Commensal *E. coli* in caecal samples of calves <1yr

1. General description of sampling design and strategy

Prospective sampling was carried out based on a national sampling assigning the samples to be collected proportionally to the Laender.

2. Stratification procedure per animal population and food category

Samples are assigned to the Laender according to their respective animal population (for samples collected at farm), slaughter capacity (based on the actual slaughter figures of the year prior to the program design), i.e. figures from 2015 form the basis of the sampling in 2017.

3. Randomisation procedure per animal population and food category

Only one isolate per epidemiological unit was tested.

4. Analytical method used for detection and confirmation

No specifications were made for the method of detection of *E. coli* as prevalence of *E. coli* could be assumed to be 100 %. Isolates were confirmed by the NRL-AR using MALDI-TOF.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU.

6. Results of investigation

Overall, 242 Isolates of commensal *E. coli* from caeca of cattle under 1 year at slaughter were tested. More than half (53.3 %) of them were susceptible to all antimicrobials tested which was similar to 2015 (53.9 %). Highest resistance rates were observed to tetracycline, ampicillin, sulfamethoxazole and trimethoprim. For these antimicrobials, resistance rates had been similar in 2015. For ciprofloxacin, resistance rates were slightly lower in 2017 (9.1 %) than in 2015 (10.5 %). Resistance to colistin had been found in one isolate in 2015 and was observed in 7 isolates in 2017 (2.8 %).

7. Additional information

35. General Description of Antimicrobial Resistance Monitoring: *Salmonella* in pigs

1. General description of sampling design and strategy

Prospective sampling was carried out based on a national sampling assigning the samples to be collected proportionally to the Laender. Samples were collected from carcasses of slaughter pigs (n=30), but additionally from caecal samples of slaughter pigs (n=21) and from boot swabs in fattening pig herds (n=28).

2. Stratification procedure per animal population and food category

Samples are assigned to the Laender according to their respective animal population (for samples collected at farm), and slaughter capacity (based on the actual slaughter figures of the year prior to the program design), i.e. figures from 2015 form the basis of the sampling in 2017. At slaughter samples isolates also were obtained from samples examined on behalf of the food business operators.

3. Randomisation procedure per animal population and food category

Only one isolate per epidemiological unit was tested.

4. Analytical method used for detection and confirmation

Salmonella were isolated according to ISO 6579.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU.

6. Results of investigation

Of the isolates obtained from carcasses 25.8 % were susceptible to all antimicrobials tested. Highest resistance rates were found for ampicillin, sulfamethoxazole and tetracycline. Resistance to ciprofloxacin was infrequent (6.5 %). However, resistance to colistin was higher (12.9 %). One isolate was resistant to cefotaxime and ceftazidime (3.2 %).
In isolates from caecal samples at slaughter, resistance was similar. However, the proportion of fully susceptible isolates was slightly higher (35.8 %) and only one isolate was resistant to colistin (4.8 %) and ciprofloxacin.
Isolates at farm displayed substantially higher resistance rates to tetracycline, ampicillin, sulfamethoxazole and trimethoprim. Here, 4 isolates were also resistant to tigecycline (14.3 %). However, none of the isolates from farms were resistant to the prioritized critically important antimicrobials cefotaxime, ciprofloxacin and colistin.
The higher resistance rates corresponded to a larger proportion of *S.* Typhimurium and monophasic *S.* Typhimurium (79 % of all isolates in pigs at farm vs. 61 % in caeca and 50 % on carcasses). However, numbers per serovar from the 3 origins are too small to be interpreted meaningfully.

7. Additional information

36. General Description of Antimicrobial Resistance Monitoring: ESBL/AmpC forming *E. coli* in caecal samples of pigs

1. General description of sampling design and strategy

Prospective sampling was carried out based on a national sampling assigning the samples to be collected proportionally to the Laender.

2. Stratification procedure per animal population and food category

Samples are assigned to the Laender according to their respective animal population (for samples collected at farm), slaughter capacity (based on the actual slaughter figures of the year prior to the program design), i.e. figures from 2015 form the basis of the sampling in 2017.

3. Randomisation procedure per animal population and food category

Only one isolate per epidemiological unit was tested.

4. Analytical method used for detection and confirmation

ESBL/AmpC forming *E. coli* were isolated as prescribed by the EURL-AR.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU.

6. Results of investigation

ESBL/AmpC *E. coli* were identified in 47 % of the caecal samples from fattening pigs at slaughter (2015: 46.2 %). All isolates were phenotypically resistant to cefotaxim and ampicillin, while 96.3 % were resistant to ceftazidime. Besides that, highest resistance rates were observed to sulfamethoxazole (64.4 %), tetracycline (48.8 %) and trimethoprim (43.1 %). Resistance to these substances was less frequent than in 2015. Resistance to ciprofloxacin (39.4 %) was more frequent than in 2015 (31.6 %). Resistance to colistin was only observed in 1 isolate (0.6 %, 2015: 1.9 %).

7. Additional information

ESBL/AmpC forming *E. coli* were also selectively isolated from herds of fattening pigs at farm using boot-swab samples. Here, also 45.6 % of samples were positive. However resistance rates to sulfamethoxazole, trimethoprim and tetracyclin were higher than at slaughter while resistance to other antimicrobials did not differ substantially.

37. General Description of Antimicrobial Resistance Monitoring; ESBL/AmpC forming *E. coli* in cattle <1y

1. General description of sampling design and strategy

Prospective sampling was carried out based on a national sampling assigning the samples to be collected proportionally to the Laender.

2. Stratification procedure per animal population and food category

Samples are assigned to the Laender according to their respective animal population (for samples collected at farm), slaughter capacity (based on the actual slaughter figures of the year prior to the program design), i.e. figures from 2015 form the basis of the sampling in 2017.

3. Randomisation procedure per animal population and food category

Only one isolate per epidemiological unit was tested.

4. Analytical method used for detection and confirmation

ESBL/AmpC forming *E. coli* were isolated as prescribed by the EURL-AR.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU.

6. Results of investigation

ESBL/AmpC *E. coli* were identified in 68.0 % of the caecal samples from cattle under 1 year at slaughter (2015: 60.6 %). All isolates were phenotypically resistant to cefotaxim and ampicillin, while 96.2 % were resistant to ceftazidime. Besides that, highest resistance rates were observed to tetracyclin, sulfamethoxazole and trimethoprim. Resistance to these substances was less frequent than in 2015. Resistance to ciprofloxacin (44.0 %) was more frequent than in 2015 (36.8 %). Resistance to colistin was only observed in 1 isolate (0.4 %, 2015: 1.0 %).

7. Additional information

38. General Description of Antimicrobial Resistance Monitoring; ESBL/AmpC forming *E. coli* in meat from bovines

1. General description of sampling design and strategy

Prospective sampling was carried out based on a national sampling assigning the samples to be collected proportionally to the Laender.

2. Stratification procedure per animal population and food category

Samples are assigned to the Laender according to their respective human population.

3. Randomisation procedure per animal population and food category

Only one isolate per epidemiological unit was tested.

4. Analytical method used for detection and confirmation

ESBL/AmpC forming *E. coli* were isolated as prescribed by the EURL-AR.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU.

6. Results of investigation

ESBL/AmpC *E. coli* were identified in 4.4 % of the bovine meat samples at retail (2015: 4.0 %). All 15 isolates were phenotypically resistant to cefotaxim and ampicillin, while 93.3 % were resistant to ceftazidime. Besides that, highest resistance rates were observed to tetracyclin (73.3 %), sulfamethoxazole (66.7 %) and trimethoprim (53.3 %). Resistance to these substances was more frequent than in 2015. Resistance to ciprofloxacin (33.3 %) was less frequent than 2015 (62.5 %). Resistance to colistin was not observed in both years.

7. Additional information

39. General Description of Antimicrobial Resistance Monitoring; ESBL/AmpC forming *E. coli* in meat from pigs

1. General description of sampling design and strategy

Prospective sampling was carried out based on a national sampling assigning the samples to be collected proportionally to the Laender.

2. Stratification procedure per animal population and food category

Samples are assigned to the Laender according to their respective human population.

3. Randomisation procedure per animal population and food category

Only one isolate per epidemiological unit was tested.

4. Analytical method used for detection and confirmation

ESBL/AmpC forming *E. coli* were isolated as prescribed by the EURL-AR.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU.

6. Results of investigation

ESBL/AmpC *E. coli* were identified in 5.5 % of the pig meat samples at retail (2015: 5.7 %). All 19 isolates were phenotypically resistant to cefotaxim, ceftazidime and ampicillin. Besides that, highest resistance rates were observed to sulfamethoxazole (73.7 %), trimethoprim (57.9 %) and tetracyclin (52.6 %). Resistance to these substances was similar in 2015. Resistance to ciprofloxacin (21.1 %) was slightly less frequent than 2015 (31.8 %). Resistance to colistin was not observed in both years.

7. Additional information

40. General Description of Antimicrobial Resistance Monitoring: *Enterococcus* (*E.*) *faecalis* and *E. faecium* in caecal samples of pigs

1. General description of sampling design and strategy

Prospective sampling was carried out based on a national sampling assigning the samples to be collected proportionally to the Laender.

2. Stratification procedure per animal population and food category

Samples are assigned to the Laender according to their respective animal population (for samples collected at farm), slaughter capacity (based on the actual slaughter figures of the year prior to the program design), i.e. figures from 2015 form the basis of the sampling in 2017.

3. Randomisation procedure per animal population and food category

Only one isolate per epidemiological unit was tested.

4. Analytical method used for detection and confirmation

Enterococci were isolated by regional labs according to their established procedures.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU.

6. Results of investigation

40 isolates each of *E. faecalis* and *E. faecium* were tested for AMR. Resistance was highest to erythromycin in *E. faecium* (42.5 %) and to tetracycline in *E. faecalis* (80 %). Few isolates were susceptible to all antimicrobials (27.5 and 20.0 % for the two species). In *E. faecium* most isolates were only resistant to 1 antimicrobial (52.5 %), while in *E. faecalis* a substantial number (80 %) was resistant to more antimicrobials. Resistance to vancomycin was not observed in isolates of both species in pigs.

7. Additional information

41. General Description of Antimicrobial Resistance Monitoring: *Enterococcus* (*E.*) *faecalis* and *E. faecium* in caecal samples of cattle < 1yr

1. General description of sampling design and strategy

Prospective sampling was carried out based on a national sampling assigning the samples to be collected proportionally to the Laender.

2. Stratification procedure per animal population and food category

Samples are assigned to the Laender according to their respective animal population (for samples collected at farm), slaughter capacity (based on the actual slaughter figures of the year prior to the program design), i.e. figures from 2015 form the basis of the sampling in 2017.

3. Randomisation procedure per animal population and food category

Only one isolate per epidemiological unit was tested.

4. Analytical method used for detection and confirmation

Enterococci were isolated by regional labs according to their established procedures.

5. Laboratory methodology used for detection of antimicrobial resistance

Samples are analysed as prescribed by Commission Implementing Decision 2013/652/EU.

6. Results of investigation

49 isolates of *E. faecium* and 42 isolates of *E. faecalis* were tested for AMR. Resistance was highest to tetracycline in *E. faecalis* (76.7 %) and to erythromycin in *E. faecium* (61.2 %). Few isolates were susceptible to all antimicrobials (23.3 and 24.5 % for the two species). Resistance to vancomycin was not observed in isolates of *E. faecium* and of *E. faecalis* from cattle under 1 year.

7. Additional information