

AUSTRIA

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

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

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

IN 2010

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Austria

Reporting Year:

Laboratory name	Description	Contribution
Central Veterinary Services	Federal Ministry of Health	Data concerning notifiable zoonoses in animals; Revision of the draft of the Trend Report; Approval of the Trend Report for Submission
Food Office	Federal Ministry of Health	Revision of the draft of the Trend Report
DG Public Health	Federal Ministry of Health	Validation of data concerning notifiable zoonoses in humans and food borne outbreaks; revision of the draft of the Trend Report
Feed Office	Federal Ministry of Agriculture, Forestry, the Environment and Water Management	Revision of the draft of the Trend Report
Provincial Veterinary Services	9 provinces, one Veterinary Service per province	Data concerning notifiable zoonoses in animals
Local/District health authorities	Part of each local administration authority ("Bezirksverwaltungsbehörde"), one physician per district	Collection and entry of the data concerning notifiable zoonoses in humans and food borne outbreaks

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Laboratory name	Description	Contribution
Statistics Austria	The independent and non-profit-making federal institution, Statistics Austria, provides data on the economy, demography, environment and social and cultural situation in Austria to federal bodies. Federal agencies can then implement controlling measures in the scientific community, business and public institutions.	Demographic and livestock census data
Competence Centre for Infectious Disease Epidemiology (CC-INFE)	Austrian Agency for Health and Food Safety, AGES	Compilation, validation, data entry and submission of the Zoonoses Trend Report
Data, Statistics and Risk Assessment	Austrian Agency for Health and Food Safety, AGES	Analysis of laboratory results for antimicrobial resistance of <i>Campylobacter</i> spp. <i>Enterococcus faecalis/faecium</i> and <i>E. coli</i>
National Reference Centre for Salmonella Institute for Medical Microbiology and Hygiene, (IMED), Graz	Austrian Agency for Health and Food Safety, AGES	Laboratory data concerning salmonellosis in feedingstuff, animals, foodstuff and humans and antimicrobial resistance testing
National Reference Laboratory for <i>Campylobacter</i> , Institute for Medical Microbiology and Hygiene, (IMED), Graz	Austrian Agency for Health and Food Safety, AGES	Laboratory data concerning campylobacteriosis in humans, speciation of <i>Campylobacter</i> from food and animals, antimicrobial resistance testing
National Reference Centre for Antimicrobial Resistance Institute for Medical Microbiology and Hygiene, (IMED), Graz	Austrian Agency for Health and Food Safety, AGES	Testing for antimicrobial resistance of <i>E. coli</i> and enterococci from animals; data concerning MRSA

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Laboratory name	Description	Contribution
National Reference Centre for Tuberculosis, Institute for Medical Microbiology and Hygiene (IMED), Vienna	Austrian Agency for Health and Food Safety, AGES	Data concerning tuberculosis in humans
National Reference Center for E. coli including VTEC Institute for Medical Microbiology and Hygiene, (IMED), Graz	Austrian Agency for Health and Food Safety, AGES	Typing of VTEC from humans, food and animals
National Reference Centre for Listeria Institute for Medical Microbiology and Hygiene (IMED), Vienna	Austrian Agency for Health and Food Safety, AGES	Laboratory data concerning listeriosis in humans
National Reference Laboratory for Yersinia, Institute for Medical Microbiology and Hygiene (IMED), Vienna	Austrian Agency for Health and Food Safety, AGES	Laboratory data concerning yersiniosis in humans
National Reference Laboratory for Toxoplasmosis, Echinococcosis, Toxocarosis and other Parasitic Diseases; Department of Medical Parasitology; Institute of Specific Prophylaxis and Tropical Medicine; Center for Physiology, Pathophysiology and Immunology	Medical University of Vienna	Laboratory data concerning parasitic diseases in humans
National Reference Laboratory for Clostridium difficile Institute for Medical Microbiology and Hygiene (IMED), Vienna	Austrian Agency for Health and Food Safety, AGES	Analysis and Typing of Clostridium difficile from animals (and humans; not part of the report)

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Laboratory name	Description	Contribution
National Reference Laboratory for Brucellosis, Institute for Veterinary Disease Control, (IVET), Moedling	Austrian Agency for Health and Food Safety, AGES	Laboratory data concerning brucellosis in animals and humans
National Reference Laboratory for Rabies, Institute for Veterinary Disease Control, Moedling	Austrian Agency for Health and Food Safety, AGES	Data concerning rabies in animals
Official Food Control Laboratories (ILMU)	Austrian Agency for Health and Food Safety, AGES; Laboratories in Graz, Innsbruck, Linz, Salzburg and Vienna	Data concerning investigations in foodstuffs
Food Safety Department of the City of Vienna	Regional Food Laboratory	Data concerning investigations in foodstuffs
Institute for Environment and Food Safety of the State of Vorarlberg	Regional Food Laboratory	Data concerning investigations in foodstuffs
Carinthian Institute for Food Analysis and Quality Control	Regional Food Laboratory	Data concerning investigations in foodstuffs
National Reference Laboratory for Tuberculosis in Animals, Institute for Veterinary Disease Control, Moedling	Austrian Agency for Health and Food Safety, AGES	Data concerning tuberculosis in animals
National Reference Laboratory for Trichinellosis in Animals, Institute for Veterinary Disease Control, (IVET), Innsbruck	Austrian Agency for Health and Food Safety, AGES	Data concerning trichinellosis in animals
Institutes for Veterinary Disease Control (IVET)	Austrian Agency for Health and Food Safety, AGES; Laboratories in Graz, Innsbruck, Linz and Moedling	Data concerning investigations in animals; bacteriological investigation in slaughtered animals

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Laboratory name	Description	Contribution
Institute for Veterinary Disease Control, Klagenfurt	Regional Veterinary Laboratory	Data concerning investigations in animals
Austrian Poultry Health Service (QGV)	Association installed by law, running different programs e.g. salmonella control and hygiene programs, Control of veterinarians and poultry farmers	Data concerning the Austrian poultry industry
Institute for Agricultural Analysis, Linz	Austrian Agency for Health and Food Safety, AGES	Data concerning feeding stuff

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 Austria during the year 2010 .

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

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

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

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

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

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1. ANIMAL POPULATIONS

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

A. Information on susceptible animal population

Sources of information

The independent and non-profit-making federal institution, Statistics Austria, provides data on the economy, demography, environment and social and cultural situation in Austria to federal bodies. Federal agencies can then implement controlling measures in the scientific community, business and public institutions. The data for this report are available from an online database established by Statistics Austria.

Herds, flocks, holdings, stocks

Cattle: The number of holdings and animals is based on the official database for cattle.

Equids, Pigs, Sheep, Goats and Farmed Deer: The number of holdings and animals is based on the yearly full survey for pig, sheep and goats of the Veterinary Information System (VIS).

Poultry: The number of holdings and animals is based on a random sample survey performed by Statistics Austria (farm structure survey). The last random sample survey was performed 2007.

Slaughters

Cattle, Equids: The number of slaughters is based on a monthly/yearly statistic of all examined slaughters (reported by veterinarians), performed by Statistics Austria.

Pigs: The number of slaughters is based on a monthly/yearly statistic of all examined slaughters (reported by veterinarians), combined with not-examined slaughters (out of pig-random-sample-surveys) performed by Statistics Austria.

Sheep & Goats: The number of slaughters is based on an expert-model carried out by Statistics Austria.

Poultry: The number of slaughters is based on a monthly/yearly full survey in poultry-slaughterhouses (only) performed by Statistics Austria.

Dates the figures relate to and the content of the figures

Data are received from Statistics Austria, only poultry data from QGV.

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

Cattle: BGBl. II Nr. 147/2009 (Statistiken über den Viehbestand)

Swine, Sheep and Goats: BGBl. II Nr. 291/2009 (Tierkennzeichnungs- und Registrierungsverordnung 2009)

Poultry: BGBl. II Nr. 310/2007 (Erstellung der Statistik über die Agrarstruktur und den Viehbestand im Jahr 2007); BGBl. II Nr. 356/2003 (Erhebung der Geflügelschlachtungen in Betrieben mit min. 5000 Vorjahres-Geflügelschlachtungen)

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

Pigs: 97,02 % of all pigs are kept in 84,27 % of the holdings that are located in the 4 provinces Carinthia, Lower Austria, Upper Austria and Styria;

Sheep: 73,07 % of the sheep holdings are located in the 4 provinces Lower Austria, Upper Austria, Styria and the Tyrol; 74,81 % of the sheep are kept there.

Goats: 71,65 % of the goat holdings are located in the 4 provinces Lower Austria, Upper Austria, Styria and the Tyrol; 78,33 % of the goats are kept there.

Additional information

-

Table Susceptible animal populations

* Only if different than current reporting year

Animal species	Category of animals	Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
		Data	Year*	Data	Year*	Data	Year*	Data	Year*
Cattle (bovine animals)	meat production animals					295510			
	dairy cows and heifers					1083719			
	calves (under 1 year)					634052			
	- in total			624859		2013281		71563	
Deer	farmed - in total			3497		35099		1570	
Ducks	- in total ¹⁾								
Gallus gallus (fowl)	elite breeding flocks, unspecified - in total	0		0		0		0	
	parent breeding flocks, unspecified - in total	124				1021287		85	
	grandparent breeding flocks for egg production line	0		0		0		0	
	parent breeding flocks for egg production line	27				244750			
	breeding flocks for egg production line - in total	27				244750			
	broilers ²⁾	3402				56336493		469	
	grandparent breeding flocks, unspecified - in total	0		0		0		0	

Table Susceptible animal populations

Animal species	Category of animals	Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
		Data	Year*	Data	Year*	Data	Year*	Data	Year*
Gallus gallus (fowl)	elite breeding flocks for meat production line	0		0		0		0	
	laying hens ³⁾	2808				8034315		1733	
	breeding flocks for meat production line - in total	97				776537			
	parent breeding flocks for meat production line	97				776537			
	grandparent breeding flocks for meat production line	0		0		0		0	
	elite breeding flocks for egg production line	0		0		0		0	
	- in total ⁴⁾	6334		72310000		65392095		2287	
Geese	grandparent breeding flocks	0		0		0		0	
	elite breeding flocks	0		0		0		0	
	parent breeding flocks	0		0		0		0	
	- in total ⁵⁾								
Goats	animals over 1 year ⁶⁾			11219		61463		10719	
	milk goats					28596		2895	
	animals under 1 year			33940		27335		4706	

Table Susceptible animal populations

Animal species	Category of animals	Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
		Data	Year*	Data	Year*	Data	Year*	Data	Year*
Goats	- in total ⁷⁾			45159		88798		11026	
Pigs	fattening pigs			5532872		1149279		26092	
	breeding animals - unspecified - sows and gilts			99771		285908		8092	
	- in total			5632643		3164898		34211	
Sheep	animals over 1 year ⁸⁾			64691		241973		15735	
	milk ewes					21902		916	
	animals under 1 year (lambs)			200877		172903		13283	
	- in total ⁹⁾			265568		414876		16182	
Solipeds, domestic	horses - in total			947		72269		15287	
Turkeys	parent breeding flocks	0		0		0		0	
	grandparent breeding flocks	0		0		0		0	
	breeding flocks, unspecified - in total	0		0		0		0	
	elite breeding flocks	0		0		0		0	
	meat production flocks	355				2280878		145	

Table Susceptible animal populations

Animal species	Category of animals	Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
		Data	Year*	Data	Year*	Data	Year*	Data	Year*
Turkeys	- in total ¹⁰⁾								
Wild boars	farmed - in total			865					

Comments:

- ¹⁾ number of slaughtered animals is protected
- ²⁾ livestock numbers and flocks: all animals/flocks produced in the year
- ³⁾ livestock numbers and flocks: all animals/flocks produced in the year
- ⁴⁾ animals that are within the control programs
- ⁵⁾ number of slaughtered animals is protected
- ⁶⁾ contains all animals > 1 year, also milk goats
- ⁷⁾ in Austrian structure most holding consist of animals < 1 year and animals > 1 year
- ⁸⁾ contains all animals > 1 year, also milk ewes
- ⁹⁾ in Austrian structure most holding consist of animals < 1 year and animals > 1 year
- ¹⁰⁾ number of slaughtered animals is protected due to the fact that there are only two slaughter houses for turkeys in Austria; total numbers of flocks, holdings and animals is not available because there are many small holdings with fattening turkeys (e.g. 10 animals)

2. INFORMATION ON SPECIFIC ZOO NOSES AND ZOONOTIC AGENTS

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

2.1 SALMONELLOSIS

2.1.1 General evaluation of the national situation

A. General evaluation

History of the disease and/or infection in the country

Human salmonellosis remains a major health problem in Austria. In 2010, the number of notified salmonellosis cases was the second highest reported pathogen after campylobacteriosis.

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

The incidence of human salmonellosis has significantly declined since the peak in 1998/1999. The salmonella-contamination of raw poultry meat has declined from 30% in 1999 to less than 5.5% in 2010. The consumption of eggs and egg products that are contaminated with Salmonella is presumably the main cause of human infection.

The number of salmonellosis cases presented in this report (table 2) reflects the number of laboratory confirmed cases sent to the National Reference Centre for Salmonella, n = 2,209. This number shows again a reduction compared to the previous year and reflects the success of interventions aimed at combating salmonella.

As compared to the number of notified cases of campylobacteriosis (see chapter campylobacteriosis), salmonella is the second most important cause for enteric diseases in Austria.

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

In 2010, data from feedingstuffs (n = 244; only feedingstuffs for food producing animals, exclusive pet feed) indicate that the prevalence of salmonella (< 1%) remains very low. None of the tested table eggs (57 samples, between 25 g and 900 g tested) were positive for salmonella, although infected eggs pose the main vehicle for human infections.

Recent actions taken to control the zoonoses

There were the EU programs implemented to control the contamination of Salmonella in poultry, most programs involved meat and egg production. The effort of the intervention is directed toward improving the sanitation of breeding flocks and laying flocks, broiler flocks and turkey flocks according to EU legislation.

Suggestions to the Community for the actions to be taken

Continue the efforts already started, especially to improve harmonization of monitoring and control programs along the food chain.

Additional information

If zoonotic agents, which are listed in the national Zoonoses Act, are isolated from human specimen, food or animals the laboratories are obliged to send these strains to the respective national reference lab for typing and comparative analysis.

2.1.2 Salmonella in foodstuffs

A. Salmonella spp. in Food Meat, mixed meat - meat products - fermented sausages - at retail - Surveillance - official controls - objective sampling (campaign A-802-10)

Monitoring system

Sampling strategy

Random sampling is done according to the sampling plan of the Ministry of Health. Samples are taken at retail outlets by competent authorities.

Frequency of the sampling

Investigation period: November – December

Type of specimen taken

Other: ____ Mixed meat products – fermented sausages

Methods of sampling (description of sampling techniques)

Sample weight: 25g

Definition of positive finding

Detection of Salmonella spp. in 25g

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs

Results of the investigation

66 samples tested, 0-time positive for Salmonella spp.

Additional information

Samples were also tested for VTEC and Listeria monocytogenes

B. Salmonella spp. in Food Meat, mixed meat - meat products - cooked, ready-to-eat - chilled
- at retail - Surveillance - official controls - objective sampling (campaign A-801-10)

Monitoring system

Sampling strategy

Random sampling is done according to the sampling plan of the Ministry of Health. Samples are taken at retail outlets by competent authorities.

Frequency of the sampling

Investigation period: August - October

Type of specimen taken

Other: ___Mixed meat products cooked – ready-to-eat chilled_

Methods of sampling (description of sampling techniques)

Sample weight: 25g

Definition of positive finding

Detection of Salmonella spp. in 25g

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs

Results of the investigation

99 samples tested, 0-time positive for Salmonella spp.

Additional information

Samples were also tested for Listeria monocytogenes

C. Salmonella spp. in Food Meat from farmed game- land mammals - fresh - chilled - at retail -
Surveillance - official controls - objective sampling (campaign A-803-10)

Monitoring system

Sampling strategy

Random sampling is done according to the sampling plan of the Ministry of Health. Samples are taken at retail outlets by competent authorities.

Frequency of the sampling

Investigation period: September - November

Type of specimen taken

Other: ___Meat from farmed game – land mammals fresh chilled_

Methods of sampling (description of sampling techniques)

Sample weight: 25g

Definition of positive finding

Detection of Salmonella spp. in 25g

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs

Results of the investigation

30 samples tested for Salmonella spp.: 0-times positive

Additional information

Samples were also tested for Campylobacter, VTEC and Clostridium difficile

D. Salmonella spp. in Food

Monitoring system

Sampling strategy

Foodstuff was sampled according to the ordinance „Revisions- und Probenplan für das Jahr 2009 gemäß §31 LMSVG; Richtlinien über die Vollziehung der Überwachung des Verkehrs mit den durch das LMSVG erfassten Waren; Berichtsschema 2008“ (BMGFJ – 75500/0332-IV/B/7/2008) from the Federal Ministry of Health. This “Revisions- und Probenplan” is part of the multi-annual national control plan (2007-2010) according to Art. 41 ff of Regulation (EC) No 882/2004.

The Revision-Plan determines the number of food enterprises e.g. restaurants, dairies, retail outlets etc. that have to be sampled and tested randomly according to the number of food enterprises per province. Every business within Austria has to be sampled at least once per year. The inspection can comprise sampling, hygienic investigations of the employees, checking of HACCP concepts, control of manufacturing processes etc.

In 2010, approximately 35,000 samples were planned to be tested in Austria. About 75 % of these are planned samples (surveillance) and only these numbers are used in this report (data from suspect samples are not shown). These planned samples either consist of samples of the yearly sampling plan which determines the number of samples of each food category that have to be investigated randomly, e.g. raw meat (fresh or frozen); sausages; cheeses; milk; preserved food etc. There are different sampling stages where food samples are taken: e.g. from retail, processing plant, primary production.

In addition there is a monitoring plan for food items (40-45 campaigns per year). In the course of these programs food items of special interest for defined parameters – amongst others zoonotic agents – are investigated. The sampling takes place during a fixed period of time in order to gain in-dept information. In 2010, seven food campaign programs were conducted throughout Austria dealing with zoonotic agents (Schwerpunktprogramm 2010 BMG-75500/0246-II/B/7/2009). Details and results of these campaigns can be found in the respective chapters.

Diagnostic/analytical methods used

According to ISO 6579: 1999, with modifications: After preenrichment, selective enrichment in modified semisolid Rappaport-Vassiliadis or Diasalm, 18-24 hours at 42°C. Subsequently plating on XLD agar, Brilliant green-Phenolred-Lactose-Saccharose agar (BPLS), Salmonella Detection and Identification Medium (SMID) or Rambach agar.

25 g of raw material for egg products or 25 g of pooled content of 5 table eggs are either incubated directly or preenriched in peptone water. Further steps are performed as described above.

All isolates are sent to the NRL Salmonella and serotyped according to the Kauffmann-White-Scheme. All *S. Enteritidis* and *S. Typhimurium* isolates are phage-typed according to the methods used by HPA, Colindale, UK.

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

Salmonella spp. was detected in fresh single broiler meat samples in 5.5% (23 out of 415), in 11% of fresh turkey meat samples (6 out of 56), and in 5 out of 225 samples (2 %) of meat preparation from broilers, intended to be eaten cooked. None of the tested bovine meat samples (0/69) were tested positive. In all the pig meat samples (fresh and cooked), 20 of the 1,836 tested single samples (1.1%) were found positive. In meat from farmed game, land mammals fresh chilled (campaign A-803-10) no positive sample tested out of 30 samples, in mixed meat products cooked, ready-to-eat chilled (campaign A-801-10) no positive sample tested out of 99 samples, in mixed meat products, fermented sausages (campaign A-802-10) no positive sample tested out of 66 samples. In 2010, 860 samples from milk, milk products and cheeses (all from cows', sheeps' or goats' milk) were tested for *Salmonella* spp. and no sample was found

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positive as in the years 2007 - 2009. Out of the 57 sample units, each containing 25g of table eggs that were sampled and examined at packing centres or at retail level, no sample was tested positive for salmonella.

Additional information

The public is informed about the results via the annual zoonoses brochure.

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. 6,7:-:1,5	S. Abony	S. Bredeney
Meat from broilers (Gallus gallus) - fresh - at catering - Surveillance - official controls - objective sampling	*	Single	25g	6	3						
Meat from broilers (Gallus gallus) - fresh - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	16	0						
Meat from broilers (Gallus gallus) - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	366	18		2				2
Meat from broilers (Gallus gallus) - fresh - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	17	2						
Meat from broilers (Gallus gallus) - fresh - at slaughterhouse - Surveillance - official controls - objective sampling	*	Single	25g	10	0						
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Surveillance - official controls - objective sampling	*	Single	25g	225	5						1
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from duck - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from geese - fresh - at retail - Surveillance - official controls - objective sampling	*	Single	25g	1	1						

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. 6,7:-:1,5	S. Abony	S. Bredeney
Meat from geese - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	13	3		1			1	
Meat from geese - fresh - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from poultry, unspecified - fresh - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from poultry, unspecified - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0						
Meat from poultry, unspecified - fresh - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling	*	Single	25g	8	0						
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	12	0						
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at retail - Surveillance - official controls - objective sampling	*	Single	25g	2	0						

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. 6,7:-:1,5	S. Abony	S. Bredeney
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	66	2						
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight >25g)	*	Single	10g	5	1				1		
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	11	0						
Meat from poultry, unspecified - meat products - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	9	0						

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. 6,7:-:1,5	S. Abony	S. Bredeney
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	5	0						
Meat from turkey - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	1						
Meat from turkey - fresh - at catering - Surveillance - official controls - objective sampling	*	Single	25g	4	2		1				
Meat from turkey - fresh - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	8	0						
Meat from turkey - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	37	4						1
Meat from turkey - fresh - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	7	0						

Table Salmonella in poultry meat and products thereof

	S. Give	S. Indiana	S. Infantis	S. Kentucky	S. Kottbus	S. Newport	S. Saintpaul
Meat from broilers (Gallus gallus) - fresh - at catering - Surveillance - official controls - objective sampling			3				
Meat from broilers (Gallus gallus) - fresh - at processing plant - domestic production - Surveillance - official controls - objective sampling							
Meat from broilers (Gallus gallus) - fresh - at retail - domestic production - Surveillance - official controls - objective sampling			12				2
Meat from broilers (Gallus gallus) - fresh - at retail - imported - Surveillance - official controls - objective sampling		1	1				
Meat from broilers (Gallus gallus) - fresh - at slaughterhouse - Surveillance - official controls - objective sampling							
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Surveillance - official controls - objective sampling			1			1	2
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at catering - Surveillance - official controls - objective sampling							
Meat from duck - Surveillance - official controls - objective sampling							
Meat from geese - fresh - at retail - Surveillance - official controls - objective sampling	1						

Table Salmonella in poultry meat and products thereof

	S. Give	S. Indiana	S. Infantis	S. Kentucky	S. Kottbus	S. Newport	S. Saintpaul
Meat from geese - fresh - at retail - domestic production - Surveillance - official controls - objective sampling					1		
Meat from geese - fresh - at retail - imported - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - fresh - at processing plant - domestic production - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - fresh - at retail - domestic production - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - fresh - at retail - imported - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at retail - Surveillance - official controls - objective sampling							

Table Salmonella in poultry meat and products thereof

	S. Give	S. Indiana	S. Infantis	S. Kentucky	S. Kottbus	S. Newport	S. Saintpaul
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling			1	1			
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight >25g)							
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at retail - imported - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - meat products - at processing plant - domestic production - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at catering - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling							

Table Salmonella in poultry meat and products thereof

	S. Give	S. Indiana	S. Infantis	S. Kentucky	S. Kottbus	S. Newport	S. Saintpaul
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at retail - imported - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - at retail - domestic production - Surveillance - official controls - objective sampling							
Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - at retail - imported - Surveillance - official controls - objective sampling							
Meat from turkey - at retail - domestic production - Surveillance - official controls - objective sampling							1
Meat from turkey - fresh - at catering - Surveillance - official controls - objective sampling			1				
Meat from turkey - fresh - at processing plant - domestic production - Surveillance - official controls - objective sampling							
Meat from turkey - fresh - at retail - domestic production - Surveillance - official controls - objective sampling				1			2
Meat from turkey - fresh - at retail - imported - Surveillance - official controls - objective sampling							

Table Salmonella in poultry meat and products thereof

Footnote:

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Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cheeses made from cows' milk - curd - at farm - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses made from cows' milk - curd - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	9	0			
Cheeses made from cows' milk - curd - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0			
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0			
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	4	0			
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses made from cows' milk - hard - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	20	0			
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0			
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	50	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	12	0			
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	14	0			
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	31	0			
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses made from cows' milk - unspecified - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cheeses made from cows' milk - unspecified - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses made from cows' milk - unspecified - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from cows' milk - unspecified - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses made from goats' milk - fresh - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from goats' milk - fresh - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses made from goats' milk - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	6	0			
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	10	0			
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0			
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from sheep's milk - unspecified - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	5	0			
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	6	0			
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	5	0			
Cheeses, made from unspecified milk or other animal milk - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses, made from unspecified milk or other animal milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses, made from unspecified milk or other animal milk - curd - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cheeses, made from unspecified milk or other animal milk - curd - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Cheeses, made from unspecified milk or other animal milk - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Dairy products (excluding cheeses) - butter - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Dairy products (excluding cheeses) - butter - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	10	0			
Dairy products (excluding cheeses) - butter - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	26	0			
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at catering - Surveillance - official controls - objective sampling	*	Single	25g	41	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	51	0			
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	232	0			
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	8	0			
Dairy products (excluding cheeses) - dairy products, not specified - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Dairy products (excluding cheeses) - dairy products, not specified - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	25	0			
Dairy products (excluding cheeses) - dairy products, not specified - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0			
Dairy products (excluding cheeses) - dairy products, not specified - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Dairy products (excluding cheeses) - fermented dairy products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Dairy products (excluding cheeses) - ice-cream - at catering - Surveillance - official controls - objective sampling	*	Single	25g	121	0			
Dairy products (excluding cheeses) - yoghurt - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Milk from other animal species or unspecified - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Milk from other animal species or unspecified - pasteurised - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Milk from other animal species or unspecified - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Milk, cows' - pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	25	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Milk, cows' - pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	16	0			
Milk, cows' - pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, cows' - raw - at catering - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Milk, cows' - raw - at farm - Surveillance - official controls - objective sampling	*	Single	25g	8	0			
Milk, cows' - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Milk, cows' - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Milk, cows' - raw - intended for direct human consumption - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	8	0			
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0			
Milk, goats' - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, goats' - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, sheep's - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, sheep's - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			

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Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Bakery products - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Bakery products - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0				
Bakery products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0				
Bakery products - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Bakery products - cakes - at catering - Surveillance - official controls - objective sampling	*	Single	25g	14	0				
Bakery products - cakes - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0				
Bakery products - cakes - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	45	0				
Bakery products - cakes - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	5	0				
Bakery products - desserts - containing heat-treated cream - at catering - Surveillance - official controls - objective sampling	*	Single	25g	5	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Bakery products - desserts - containing raw eggs and cream - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Bakery products - pastry - at catering - Surveillance - official controls - objective sampling	*	Single	25g	19	0				
Bakery products - pastry - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	16	0				
Bakery products - pastry - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	65	0				
Cereals and meals - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Cereals and meals - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0				
Cereals and meals - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	3	0				
Chocolate - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	6	0				
Chocolate - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	19	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Chocolate - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Cocoa and cocoa preparations, coffee and tea - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	14	0				
Cocoa and cocoa preparations, coffee and tea - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	33	0				
Cocoa and cocoa preparations, coffee and tea - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	14	0				
Crustaceans - at catering - Surveillance - official controls - objective sampling	*	Single	25g	5	0				
Crustaceans - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0				
Crustaceans - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	22	0				
Egg products - at packing centre - Surveillance - official controls - objective sampling	*	Single	25g	7	0				
Egg products - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Egg products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	21	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Egg products - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	6	0				
Egg products - dried - at retail - Surveillance - official controls - objective sampling	*	Single	25g	3	0				
Egg products - liquid - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Egg products - liquid - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	11	0				
Egg products - liquid - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0				
Egg products - liquid - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Eggs - table eggs - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Eggs - table eggs - at catering - Surveillance - official controls - objective sampling (Sample weight = 600g)	*	Single	600g	1	0				
Eggs - table eggs - at farm - Surveillance - official controls - objective sampling	*	Single	125g	1	0				
Eggs - table eggs - at packing centre - Surveillance - official controls - objective sampling	*	Single	25g	7	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Eggs - table eggs - at packing centre - Surveillance - official controls - objective sampling (Sample weight = 125g)	*	Single	125g	2	0				
Eggs - table eggs - at packing centre - Surveillance - official controls - objective sampling (Sample weight = 300g)	*	Single	300g	2	0				
Eggs - table eggs - at packing centre - Surveillance - official controls - objective sampling (Sample weight = 600g)	*	Single	600g	3	0				
Eggs - table eggs - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight = 300g)	*	Single	300g	1	0				
Eggs - table eggs - at retail - Surveillance - official controls - objective sampling	*	Single	25g	12	0				
Eggs - table eggs - at retail - Surveillance - official controls - objective sampling (In the shell)	*	Single	in the shell	1	0				
Eggs - table eggs - at retail - Surveillance - official controls - objective sampling (Sample weight = 125g)	*	Single	125g	8	0				
Eggs - table eggs - at retail - Surveillance - official controls - objective sampling (Sample weight = 200g)	*	Single	200g	2	0				
Eggs - table eggs - at retail - Surveillance - official controls - objective sampling (Sample weight = 300g)	*	Single	300g	8	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Eggs - table eggs - at retail - Surveillance - official controls - objective sampling (Sample weight = 600g)	*	Single	600g	5	0				
Eggs - table eggs - at retail - Surveillance - official controls - objective sampling (Sample weight = 750g)	*	Single	750g	1	0				
Eggs - table eggs - at retail - Surveillance - official controls - objective sampling (Sample weight = 900g)	*	Single	900g	1	0				
Eggs - table eggs - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Fish - raw - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Fish - raw - chilled - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	3	0				
Fishery products, unspecified - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Fishery products, unspecified - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Fishery products, unspecified - ready-to-eat - chilled - at catering - Surveillance - official controls - objective sampling	*	Single	25g	3	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Fishery products, unspecified - seafood pate - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Foodstuffs intended for special nutritional uses - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Foodstuffs intended for special nutritional uses - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Fruits - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Fruits - products - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Fruits - products - at retail - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Fruits - products - fruit purée - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0				
Fruits and vegetables - non-precut - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Fruits and vegetables - pre-cut - ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Infant formula - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Infant formula - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	17	0				
Infant formula - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	5	0				
Juice - fruit juice - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Juice - fruit juice - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0				
Juice - fruit juice - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0				
Juice - fruit juice - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Juice - fruit juice - unpasteurised - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Juice - fruit juice - unpasteurised - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	11	0				
Juice - fruit juice - unpasteurised - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Juice - mixed juice - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Juice - mixed juice - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Live bivalve molluscs - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Live bivalve molluscs - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Mushrooms - at catering - Surveillance - official controls - objective sampling	*	Single	25g	4	0				
Nuts and nut products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	5	0				
Nuts and nut products - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	11	0				
Other food - at catering - Surveillance - official controls - objective sampling	*	Single	25g	6	0				
Other food - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Other food - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Other food - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	22	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Other food - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	8	0				
Other food of non-animal origin - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0				
Other food of non-animal origin - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Other processed food products and prepared dishes - at catering - Surveillance - official controls - objective sampling	*	Single	25g	329	0				
Other processed food products and prepared dishes - at catering - Surveillance - official controls - objective sampling (Sample weight >25g)	*	Single	50g	181	0				
Other processed food products and prepared dishes - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	15	0				
Other processed food products and prepared dishes - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	38	0				
Other processed food products and prepared dishes - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight >25g)	*	Single	50g	20	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Other processed food products and prepared dishes - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	13	0				
Other processed food products and prepared dishes - at retail - imported - Surveillance - official controls - objective sampling (Sample weight >25g)	*	Single	50g	2	0				
Other processed food products and prepared dishes - noodles - at catering - Surveillance - official controls - objective sampling	*	Single	25g	6	0				
Other processed food products and prepared dishes - pasta - at catering - Surveillance - official controls - objective sampling	*	Single	25g	13	0				
Other processed food products and prepared dishes - pasta - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	44	0				
Other processed food products and prepared dishes - pasta - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	45	0				
Other processed food products and prepared dishes - pasta - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	19	0				
Other processed food products and prepared dishes - sandwiches - with meat - at catering - Surveillance - official controls - objective sampling	*	Single	25g	3	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Other processed food products and prepared dishes - unspecified - containing raw egg - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	9	0				
Other processed food products and prepared dishes - unspecified - non-ready-to-eat foods - chilled - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Ready-to-eat salads - at catering - Surveillance - official controls - objective sampling	*	Single	25g	24	0				
Ready-to-eat salads - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	14	0				
Ready-to-eat salads - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	37	0				
Ready-to-eat salads - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	5	0				
Ready-to-eat salads - containing mayonnaise - at retail - Surveillance - official controls - objective sampling	*	Single	25g	28	0				
Sauce and dressings - at catering - Surveillance - official controls - objective sampling	*	Single	25g	4	0				
Sauce and dressings - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Sauce and dressings - mayonnaise - at catering - Surveillance - official controls - objective sampling	*	Single	25g	11	0				
Sauce and dressings - mayonnaise - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	6	0				
Seeds, dried - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Seeds, dried - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Seeds, dried - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	10	0				
Seeds, dried - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Spices and herbs - at catering - Surveillance - official controls - objective sampling	*	Single	25g	3	0				
Spices and herbs - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	36	0				
Spices and herbs - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	54	0				
Spices and herbs - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	67	1				1

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Spices and herbs - dried - non-irradiated - at packing centre - Surveillance - official controls - objective sampling	*	Single	25g	23	0				
Sweets - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Sweets - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Sweets - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Vegetables - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0				
Vegetables - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0				
Vegetables - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	5	0				
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	10	0				
Vegetables - products - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0				
Vegetables - products - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0				

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Montevideo
Vegetables - products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0				

Footnote:

* All Austrian Official Food Control Laboratories

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat from bovine animals - fresh - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from bovine animals - fresh - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	2	0						
Meat from bovine animals - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	13	0						
Meat from bovine animals - fresh - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	4	0						
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from bovine animals - meat preparation - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	10g	1	0						
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	15	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - imported - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	4	0						
Meat from bovine animals - meat products - cooked, ready-to-eat - chilled - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from bovine animals - minced meat - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	3	0						
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	20	0						
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - imported - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	1	0						
Meat from deer (venison) - fresh - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat from deer (venison) - meat preparation - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from deer (venison) - meat preparation - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from deer (venison) - meat preparation - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from deer (venison) - meat products - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from deer (venison) - meat products - at game handling establishment - Surveillance - official controls - objective sampling	*	Single	25g	3	0						
Meat from deer (venison) - meat products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0						
Meat from farmed game- land mammals - fresh - chilled - at retail - Surveillance - official controls - objective sampling (campaign A-803-10)	*	Single	25g	30	0						
Meat from other animal species or not specified - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	3	0						
Meat from other animal species or not specified - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat from other animal species or not specified - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from other animal species or not specified - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	12	0						
Meat from other animal species or not specified - meat products - raw and intended to be eaten raw - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from pig - fresh - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from pig - fresh - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from pig - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	27	0						
Meat from pig - fresh - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	972	12		11				
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	8	1					1	

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0						
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	10	1						
Meat from pig - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	5	0						
Meat from pig - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	496	5	1	3				
Meat from pig - meat products - cooked, ready-to-eat - at catering - Surveillance - official controls - objective sampling	*	Single	25g	5	0						
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance - official controls - objective sampling	*	Single	25g	270	1				1		
Meat from pig - meat products - raw and intended to be eaten raw - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat from pig - meat products - raw and intended to be eaten raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	6	0						
Meat from pig - meat products - raw and intended to be eaten raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	13	0						
Meat from pig - meat products - raw and intended to be eaten raw - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	3	0						
Meat from pig - meat products - raw but intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from pig - meat products - raw but intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from pig - minced meat - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	1	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat from pig - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	4	0						
Meat from pig - offal - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from sheep - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from sheep - meat preparation - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	1	0						
Meat from sheep - meat preparation - at catering - Surveillance - official controls - objective sampling (Sample weight >25g)	*	Single	50g	1	0						
Meat from sheep - meat preparation - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	1	0						
Meat from sheep - meat preparation - at retail - imported - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	1	0						
Meat from wild game - birds - fresh - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat, mixed meat - meat preparation - intended to be eaten cooked - chilled - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat, mixed meat - meat products - cooked, ready-to-eat - chilled - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat, mixed meat - meat products - cooked, ready-to-eat - chilled - at retail - Surveillance - official controls - objective sampling (campaign A-801-10)	*	Single	25g	99	0						
Meat, mixed meat - meat products - fermented sausages - at retail - Surveillance - official controls - objective sampling (campaign (A-802-10))	*	Single	25g	66	0						
Meat, mixed meat - meat products - fermented sausages - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat, mixed meat - minced meat - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	2	0						
Meat, mixed meat - minced meat - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	8	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat, mixed meat - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat, mixed meat - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	80	1						
Meat, mixed meat - minced meat - intended to be eaten cooked - at retail - imported - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	1	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten raw - at retail - Surveillance - official controls - objective sampling	*	Single	25g	3	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at catering - Surveillance - official controls - objective sampling	*	Single	25g	8	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	12	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	8	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	35	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	10	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight >25g)	*	Single	50g	3	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	19	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	36	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight >25g)	*	Single	50g	1	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	8	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - imported - Surveillance - official controls - objective sampling (Sample weight >25g)	*	Single	50g	1	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	7	2		1				1
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	1	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	19	0						
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	25	0						

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Bredeney	S. Derby	S. Give
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - at retail - imported - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	1	0						
	S. Infantis	S. Saintpaul									
Meat from bovine animals - fresh - at catering - Surveillance - official controls - objective sampling											
Meat from bovine animals - fresh - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)											
Meat from bovine animals - fresh - at retail - domestic production - Surveillance - official controls - objective sampling											
Meat from bovine animals - fresh - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)											
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling											

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat from bovine animals - meat preparation - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - imported - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat from bovine animals - meat products - cooked, ready-to-eat - chilled - at catering - Surveillance - official controls - objective sampling		
Meat from bovine animals - minced meat - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - imported - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat from deer (venison) - fresh - at retail - imported - Surveillance - official controls - objective sampling		
Meat from deer (venison) - meat preparation - at catering - Surveillance - official controls - objective sampling		
Meat from deer (venison) - meat preparation - at processing plant - domestic production - Surveillance - official controls - objective sampling		
Meat from deer (venison) - meat preparation - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat from deer (venison) - meat products - at catering - Surveillance - official controls - objective sampling		
Meat from deer (venison) - meat products - at game handling establishment - Surveillance - official controls - objective sampling		
Meat from deer (venison) - meat products - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat from farmed game- land mammals - fresh - chilled - at retail - Surveillance - official controls - objective sampling (campaign A-803-10)		

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat from other animal species or not specified - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat from other animal species or not specified - at processing plant - domestic production - Surveillance - official controls - objective sampling		
Meat from other animal species or not specified - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat from other animal species or not specified - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat from other animal species or not specified - meat products - raw and intended to be eaten raw - at catering - Surveillance - official controls - objective sampling		
Meat from pig - fresh - at catering - Surveillance - official controls - objective sampling		
Meat from pig - fresh - at processing plant - domestic production - Surveillance - official controls - objective sampling		
Meat from pig - fresh - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat from pig - fresh - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		1

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat from pig - meat preparation - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling		
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	1	
Meat from pig - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat from pig - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	1	
Meat from pig - meat products - cooked, ready-to-eat - at catering - Surveillance - official controls - objective sampling		
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling		
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance - official controls - objective sampling		

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat from pig - meat products - raw and intended to be eaten raw - at catering - Surveillance - official controls - objective sampling		
Meat from pig - meat products - raw and intended to be eaten raw - at processing plant - domestic production - Surveillance - official controls - objective sampling		
Meat from pig - meat products - raw and intended to be eaten raw - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat from pig - meat products - raw and intended to be eaten raw - at retail - imported - Surveillance - official controls - objective sampling		
Meat from pig - meat products - raw but intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling		
Meat from pig - meat products - raw but intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling		
Meat from pig - meat products - raw but intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling		

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat from pig - minced meat - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat from pig - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat from pig - offal - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat from sheep - fresh - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat from sheep - meat preparation - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat from sheep - meat preparation - at catering - Surveillance - official controls - objective sampling (Sample weight >25g)		
Meat from sheep - meat preparation - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat from sheep - meat preparation - at retail - imported - Surveillance - official controls - objective sampling (Sample weight <25g)		

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat from wild game - birds - fresh - at retail - imported - Surveillance - official controls - objective sampling		
Meat, mixed meat - meat preparation - intended to be eaten cooked - chilled - at catering - Surveillance - official controls - objective sampling		
Meat, mixed meat - meat products - cooked, ready-to-eat - chilled - at catering - Surveillance - official controls - objective sampling		
Meat, mixed meat - meat products - cooked, ready-to-eat - chilled - at retail - Surveillance - official controls - objective sampling (campaign A-801-10)		
Meat, mixed meat - meat products - fermented sausages - at retail - Surveillance - official controls - objective sampling (campaign (A-802-10))		
Meat, mixed meat - meat products - fermented sausages - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat, mixed meat - minced meat - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat, mixed meat - minced meat - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat, mixed meat - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat, mixed meat - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		1
Meat, mixed meat - minced meat - intended to be eaten cooked - at retail - imported - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten raw - at processing plant - domestic production - Surveillance - official controls - objective sampling		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten raw - at retail - Surveillance - official controls - objective sampling		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at catering - Surveillance - official controls - objective sampling		

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight >25g)		

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at catering - Surveillance - official controls - objective sampling		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at processing plant - domestic production - Surveillance - official controls - objective sampling		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight >25g)		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - imported - Surveillance - official controls - objective sampling		

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - imported - Surveillance - official controls - objective sampling (Sample weight >25g)		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling		
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)		

Table Salmonella in red meat and products thereof

	S. Infantis	S. Saintpaul
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - at retail - imported - Surveillance - official controls - objective sampling (Sample weight <25g)		

Footnote:
* All Austrian Official Food Control Laboratories

2.1.3 Salmonella in animals

A. Salmonella spp. in Gallus Gallus - breeding flocks

Monitoring system

Sampling strategy

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

There are only parent flocks in Austria. The permanent monitoring plan performed by a national program takes place at hatcheries; each flock is tested regularly as well by the farmer as by the Veterinary Authorities.

If *S. Enteritidis*, *S. Typhimurium*, *S. Infantis*, *S. Hadar* and *S. Virchow* or *S. Pullorum Gallinarum* is isolated from breeding flocks at the hatchery the flock is banned. For confirmation: 300 faeces samples and up to inner organs of 5 chickens or intestinal content of 5 chickens were pooled.

If a parent flock tests positive for other salmonellas, official veterinarians are required to investigate the source of infection to optimise biosecurity.

Frequency of the sampling

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

Other: ____ Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks! Every flock is tested at day one

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

Other: ____ Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks!

1. Routine testing: Every flock is tested at the age of 4 and 12 weeks and 2 weeks before the laying period starts.

2. Confirmation: If routine testing reveals positive Salmonella test results then follow-up test must be performed from the identical flock.

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

Other: ____ Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks! Monitoring by national program, takes place at hatchery, each flock is tested every two weeks at hatch by the farmer, and every 16 weeks by the Veterinary Authorities; additionally each flock is tested every 4 weeks by the farmer by boot swabs.

Type of specimen taken

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

Other: ____ Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks! Visibly soiled hatcher basket liners, dead chicks if available

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

Other: ____ Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks! Routine testing: drag swabs, pooled faeces. For confirmation: 300 faeces samples and up to inner organs of 5 chickens or intestinal content of 5 chickens were pooled.

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

Other: ____ Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks! Routine testing: Drag swabs, pooled faeces and dust in the hatchery, meconium, broken eggshells

and hatched eggs. For confirmation: 300 faeces samples and up to inner organs of 5 chickens or intestinal content of 5 chickens were pooled.

Methods of sampling (description of sampling techniques)

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

Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks! Visibly soiled hatcher basket liners, dead chicks if available

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

Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks! Routine testing: 60 pooled droppings a 1gram per flock, collection of dust. For confirmation: For confirmation: 300 faeces samples and up to inner organs of 5 chickens or intestinal content of 5 chickens were pooled.

Breeding flocks: Production period

Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks!

Routine testing: 1 drag swab, pooled faeces, collection of dust. For confirmation: For confirmation: 300 faeces samples and up to inner organs of 5 chickens or intestinal content of 5 chickens were pooled.

Case definition

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

Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks!

Routine testing: Salmonella spp. isolated from hatcher basket liners

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

Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks!
Salmonella spp. isolated from 5 pairs of boot swaps or 300 faeces samples.

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

Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks!
Salmonella spp. isolated from 5 pairs of boot swaps or 300 faeces samples.

Diagnostic/analytical methods used

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

Other: ___ Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks! Sample material is incubated in liquid medium. Modification of ISO 6579 (2002), where a semi solid medium (MSRV) is used as the single selective enrichment medium. The semi solid medium is incubated at 41.5+/- 1°C for 2-times 24 hours. Suspected samples are subcultured on solid media like xld or sm2. All isolates are sent to the NRL Salmonella and serotyped according to the Kauffmann-White-Scheme. All S. Enteritidis and S. Typhimurium isolates are lysotyped according to the methods used by HPA, Colindale, UK.

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

Other: ___ See day old chicks

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

Other: ___ See day old chicks

Vaccination policy

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

Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks! The

national program for parent flocks made vaccination against Salmonella Enteritidis mandatory for all flocks

Other preventive measures than vaccination in place

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

Nil

Control program/mechanisms

The control program/strategies in place

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

Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks! The Austrian control program is conducted according to the National Poultry Hygiene Regulation (BGBl. I Nr. 6/2007, Geflügelhygieneverordnung 2007 as amended). The Austrian program for monitoring and eradication of Salmonella in breeding flocks of poultry was again (already since 2000) approved for the year 2006 by Commission Decision 2005/887/EG of 12 December 2005.

Recent actions taken to control the zoonoses

Nil

Suggestions to the Community for the actions to be taken

Nil

Measures in case of the positive findings or single cases

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

Not applicable. There are no separate elite and grand parent flocks in Austria, only parent flocks!

Measures according to the National Poultry Hygiene Regulation:

- Banning of the incriminated sector of the holding
- Culling of the infected flock
- Disposal of the hatched eggs
- Abolishing of the restriction after cleaning and disinfection
- If necessary prescriptions of GMP to prevent re-infection

Notification system in place

All positive results from parent flocks must be reported to the local authorities and via the Austrian Poultry Health Service to the Federal Ministry of Health (BMG).

Results of the investigation

See table

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

In 2010, Salmonella spp. was not detected in any parent flock in Austria.

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

Nil

B. Salmonella spp. in Gallus Gallus - broiler flocks

Monitoring system

Sampling strategy

Broiler flocks

Earliest 3 weeks prior to slaughter boot swabs have to be taken. Other programs are not foreseen, only voluntary sampling by the farmer or sampling according to private cooperatives is performed.

Frequency of the sampling

Broiler flocks: Day-old chicks

Other: ___no legal requirements, e.g. at day one each flock

Broiler flocks: Rearing period

Other: ___no legal requirements

Broiler flocks: Before slaughter at farm

Other: ___3 weeks before slaughter at farm 2 pairs of boot swabs 10 % of the flocks by competent authority, Regulation EU 646/2007 is in force since 01.01.2009

Broiler flocks: At slaughter (flock based approach)

Other: ___No sampling

Type of specimen taken

Broiler flocks: Day-old chicks

Other: ___no legal requirements, e.g. visibly soiled hatcher basket liners

Broiler flocks: Rearing period

Other: ___no legal requirements, e.g. pooled feces

Broiler flocks: Before slaughter at farm

Other: ___two pairs of boot swabs per flock; 10 % of the flocks sampled by competent authority, Regulation EU 646/2007 is in force since 01.01.2009

Broiler flocks: At slaughter (flock based approach)

Other: ___No sampling

Methods of sampling (description of sampling techniques)

Broiler flocks: Day-old chicks

No legal requirements, e.g. visibly soiled hatcher basket liners

Broiler flocks: Rearing period

no legal requirements, e.g. pooled faeces

Broiler flocks: Before slaughter at farm

two pairs of boot swabs per flock; 10 % of the flocks sampled by competent authority, Regulation EU 646/2007 is in force since 01.01.2009

Broiler flocks: At slaughter (flock based approach)

No sampling

Case definition

Broiler flocks: Day-old chicks

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No legal requirements

Broiler flocks: Rearing period

No legal requirements

Broiler flocks: Before slaughter at farm

Salmonella spp. isolated from boot swabs

Broiler flocks: At slaughter (flock based approach)

No sampling

Diagnostic/analytical methods used

Broiler flocks: Day-old chicks

Other: ____ Sample material is incubated in liquid medium. Modification of ISO 6579 (2002), where a semi solid medium (MSRV) is used as the single selective enrichment medium. The semi solid medium is incubated at 41.5 +/- 1 °C for 2-times 24 hours. Suspected samples are subcultured on solid media like xld or sm2. All isolates are sent to the NRL Salmonella and serotyped according to the Kauffmann-White-Scheme. All S. Enteritidis and S. Typhimurium isolates are lysotyped according to the methods used by HPA, Colindale, UK.

Broiler flocks: Rearing period

Other: ____ See day-old chicks

Broiler flocks: Before slaughter at farm

Other: ____ See day-old chicks

Broiler flocks: At slaughter (flock based approach)

Other: ____ no testing

Vaccination policy

Broiler flocks

Neither legal requirements nor recommendations

Other preventive measures than vaccination in place

Broiler flocks

Nil

Control program/mechanisms

The control program/strategies in place

Broiler flocks

The Austrian control program is conducted according to the National Poultry Hygiene Regulation (BGBl. I Nr. 6/2007, Geflügelhygieneverordnung 2007 as amended)

Recent actions taken to control the zoonoses

Nil

Suggestions to the Community for the actions to be taken

Nil

Measures in case of the positive findings or single cases

Broiler flocks: Day-old chicks

Competitive exclusion strategies takes place.

Broiler flocks: Rearing period

Competitive exclusion strategies takes place.

Broiler flocks: Before slaughter at farm

Competitive exclusion strategies takes place. Logistic Slaughtering is permitted for Salmonella spp. positive flocks

Broiler flocks: At slaughter (flock based approach)

No testing

Notification system in place

All positive findings in parent flocks had to be notified to the local authority and via the Austrian Poultry Health Service to the Federal Ministry of Health.

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

In 2010, 3,402 broiler flocks were in production and have been tested. S. Enteritidis or S. Typhimurium was detected in 21 flocks (0.6 %). The EU-target was achieved in 2010.

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

Nil

Additional information

The public is informed about the results via the annual zoonoses brochure.

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

Monitoring system

Sampling strategy

Laying hens flocks

At the earliest 3 weeks prior to slaughter, two pairs of boot swabs must be taken from each flock. Since May 2007, every flock has been tested in accordance to regulation 1168/2006.

Frequency of the sampling

Laying hens: Day-old chicks

Other: ☐ No legal requirements, e.g. at day one of each flock

Laying hens: Rearing period

Other: ☐ 3 times at day one, week 8 to 12 and 2 weeks before the laying period start

Laying hens: Production period

Other: ☐ Each flock is tested every 15 weeks with two pairs of boot swabs; an official veterinarian is testing every flock once a year according to regulation 1168/2006.

Laying hens: Before slaughter at farm

Other: ☐ 3 weeks before slaughter at farm with two pairs of boot swabs

Laying hens: At slaughter

Other: ☐ Not applicable. no sampling

Eggs at packing centre (flock based approach)

Other: ☐ according to the program of the cooperatives voluntary surface swabs (e.g. every eight weeks)

Type of specimen taken

Laying hens: Day-old chicks

Other: ☐ no legal requirements, e.g. visibly soiled hatcher basket liners

Laying hens: Rearing period

Other: ☐ no legal requirements, e.g. pooled feces

Laying hens: Production period

Other: ☐ no legal requirements, e.g. pooled feces or drag swabs

Laying hens: Before slaughter at farm

Other: ☐ two pairs of boot swabs per flock

Laying hens: At slaughter

Other: ☐ no sampling

Eggs at packing centre (flock based approach)

Other: ☐ Voluntary e.g. surface swabs

Methods of sampling (description of sampling techniques)

Laying hens: Day-old chicks

No legal requirements, e.g. visibly soiled hatcher basket liners

Laying hens: Rearing period

2 pair of boot swabs per flock

Laying hens: Production period

Industry sampling: 2 pair of boot swabs per flock

Official sampling: 2 pair of boot swabs per flock, 25 g of dust and 60 pooled faeces samples

Laying hens: Before slaughter at farm

Two pairs of boot swabs per flock

Laying hens: At slaughter

No sampling

Eggs at packing centre (flock based approach)

No legal requirements, e.g. surface swabs

Case definition

Laying hens: Day-old chicks

No legal requirements, e.g. *Salmonella* spp. isolated from hatcher basket liners

Laying hens: Rearing period

No legal requirements

Laying hens: Production period

No legal requirements

Laying hens: Before slaughter at farm

Salmonella spp. isolated from boot swabs

Laying hens: At slaughter

No sampling

Eggs at packing centre (flock based approach)

Salmonella spp. isolated from surface swabs

Diagnostic/analytical methods used

Laying hens: Day-old chicks

Other: ____ Sample material is incubated in liquid medium. Modification of ISO 6579 (2002), where a semi solid medium (MSRV) is used as the single selective enrichment medium. The semi solid medium is incubated at 41.5 +/- 1 °C for 2-times 24 hours. Suspected samples are subcultured on solid media like xld or sm2. All isolates are sent to the NRL *Salmonella* and serotyped according to the Kauffmann-White-Scheme. All *S. Enteritidis* and *S. Typhimurium* isolates are lysotyped according to the methods used by HPA, Colindale, UK.

Laying hens: Rearing period

Other: ____ See laying hens, day old chicks.

Laying hens: Production period

Other: ____ See laying hens, day old chicks

Laying hens: Before slaughter at farm

Other: ____ See laying hens, day old chicks.

Laying hens: At slaughter

Other: ____no testing

Eggs at packing centre (flock based approach)

Other: ____See laying hens, day old chicks.

Vaccination policy

Laying hens flocks

The national program made vaccination against Salmonella Enteritidis mandatory for all flocks

Other preventive measures than vaccination in place

Laying hens flocks

Nil

Control program/mechanisms

The control program/strategies in place

Laying hens flocks

The Austrian control program is conducted according to the National Poultry Hygiene Regulation (BGBl. I Nr. 6/2007, Geflügelhygieneverordnung 2007 as amended).

Recent actions taken to control the zoonoses

All actions according to EU- and national legislation

Suggestions to the Community for the actions to be taken

Nil

Measures in case of the positive findings or single cases

Laying hens flocks

No class A eggs or culling in case of association with a food borne outbreak

EU regulation 1237/2007 is in force

Notification system in place

All positive results from parent flocks must be reported to the local authorities and via the Austrian Poultry Health Service to the Federal Ministry of Health (BMG).

Results of the investigation

See table

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

In 2010, 2,811 laying hen flocks were in production and have been tested. S. Enteritidis and S. Typhimurium were detected in 37 flocks (1.3 %). The EU-target was achieved in 2010.

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

Nil

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

Monitoring system

Sampling strategy

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

No breeding flocks in Austria

Meat production flocks

Earliest 3 weeks prior to slaughter boot swabs have to be taken. Other programs are not foreseen, only voluntary sampling by the farmer or sampling according to private cooperatives is performed.

Frequency of the sampling

Meat production flocks: Day-old chicks

Other: ____no legal requirements, e.g. at day one each flock

Meat production flocks: Rearing period

Other: ____no legal requirements

Meat production flocks: Before slaughter at farm

Other: ____3 weeks before slaughter at farm

Meat production flocks: At slaughter (flock based approach)

Other: ____No sampling

Type of specimen taken

Meat production flocks: Day-old chicks

Other: ____no legal requirements, e.g. visibly soiled hatcher basket liners

Meat production flocks: Rearing period

Other: ____no legal requirements, e.g. pooled feces

Meat production flocks: Before slaughter at farm

Other: ____two pairs of boot swabs per flock

Meat production flocks: At slaughter (flock based approach)

Other: ____no sampling

Methods of sampling (description of sampling techniques)

Meat production flocks: Day-old chicks

No sampling

Meat production flocks: Rearing period

No legal requirements

Meat production flocks: Before slaughter at farm

Two pairs of boot swabs per flock

Meat production flocks: At slaughter (flock based approach)

No sampling

Case definition

Meat production flocks: Day-old chicks

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No legal requirements

Meat production flocks: Rearing period

No legal requirements

Meat production flocks: Before slaughter at farm

Salmonella spp. isolated from boot swabs

Meat production flocks: At slaughter (flock based approach)

No sampling

Diagnostic/analytical methods used

Meat production flocks: Day-old chicks

Other: ____ Sample material is incubated in liquid medium. Modification of ISO 6579 (2002), where a semi solid medium (MSRV) is used as the single selective enrichment medium. The semi solid medium is incubated at 41.5 +/- 1 °C for 2-times 24 hours. Suspected samples are subcultured on solid media like xld or sm2. All isolates are sent to the NRL Salmonella and serotyped according to the Kauffmann-White-Scheme. All S. Enteritidis and S. Typhimurium isolates are lysotyped according to the methods used by HPA, Colindale, UK.

Meat production flocks: Rearing period

Other: ____ see day-old chicks

Meat production flocks: Before slaughter at farm

Other: ____ see day-old chicks

Meat production flocks: At slaughter (flock based approach)

Other: ____ see day-old chicks

Vaccination policy

Meat production flocks

Neither legal requirements nor recommendations

Other preventive measures than vaccination in place

Meat production flocks

Nil

Control program/mechanisms

The control program/strategies in place

Meat production flocks

The Austrian control program is conducted according to the National Poultry Hygiene Regulation (BGBl. I Nr. 6/2007, Geflügelhygieneverordnung 2007 as amended).

Recent actions taken to control the zoonoses

Nil

Suggestions to the Community for the actions to be taken

Nil

Measures in case of the positive findings or single cases

Notification not mandatory

Notification system in place

Notification not mandatory

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

Low prevalence of *S. Enteritidis* or *S. Typhimurium* (0%) in met production turkey flocks

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

In 2010, 355 turkey meat production flocks existed in Austria. *S. Enteritidis* or *S. Typhimurium* was detected in 1 (0.3%) turkey flock. The EU-targeted was achieved in 2010.

Table Salmonella in breeding flocks of Gallus gallus

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks	9	QGV	Flock	9	0						
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period	9	QGV	Flock	9	0						
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult	27	QGV	Flock	27	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks	19	QGV	Flock	19	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period	43	QGV	Flock	43	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult	97	QGV	Flock	97	0						

	Salmonella spp., unspecified
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks	
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period	
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks	

Table Salmonella in breeding flocks of Gallus gallus

	Salmonella spp., unspecified
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult	

Table Salmonella in other poultry

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified	S. Abony	S. Adelaide
Gallus gallus (fowl) - laying hens - day-old chicks	498	QGV	Flock	498	8	2					
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling	2808	QGV	Flock	2808	60	23	10			2	1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - sampling by industry	2808	QGV	Flock	2499	33	11	6				1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - objective sampling	2808	QGV	Flock	1669	37	18	5			2	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - suspect sampling	2808	QGV	Flock	34	14	14					
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling	3402	QGV	Flock	3402	100	15	6		2		
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling	355	QGV	Flock	355	30	1					
	S. Bovismorbificans	S. Braenderup	S. Bredeney	S. Dublin	S. Heidelberg	S. IIIb	S. Indiana	S. Infantis	S. Johannesburg	S. Kedougou	S. Kentucky
Gallus gallus (fowl) - laying hens - day-old chicks					1		1		1		

Table Salmonella in other poultry

	S. Bovismorbificans	S. Braenderup	S. Bredeney	S. Dublin	S. Heidelberg	S. IIIb	S. Indiana	S. Infantis	S. Johannesburg	S. Kedougou	S. Kentucky
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling		4		3	1	2		3		1	1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - sampling by industry		4		1	1	1		3			
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - objective sampling				2	1	1		2		1	1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - suspect sampling											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling	2	1				1		19			3
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling			1					2			
	S. Kottbus	S. Livingstone	S. London	S. Mbandaka	S. Montevideo	S. Panama	S. Saintpaul	S. Senftenberg	S. Stanleyville	S. Tennessee	S. Thompson
Gallus gallus (fowl) - laying hens - day-old chicks								1			2
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling		1	1	2	1				1	2	2

Table Salmonella in other poultry

	S. Kottbus	S. Livingstone	S. London	S. Mbandaka	S. Montevideo	S. Panama	S. Saintpaul	S. Senftenberg	S. Stanleyville	S. Tennessee	S. Thompson
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - sampling by industry		1	1	1						2	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - objective sampling			1	1	1				1		2
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - suspect sampling											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling	7			2	29	1		1			3
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling	13				2		11	1			

	S. Veneziana	S. Worthington	S. group B, monophasic strain	S. group C2, monophasic strain
Gallus gallus (fowl) - laying hens - day-old chicks				
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling				
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - sampling by industry				

Table Salmonella in other poultry

	S. Veneziana	S. Worthington	S. group B, monophasic strain	S. group C2, monophasic strain
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - objective sampling				
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - suspect sampling				
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling	1	4	1	2
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling				

Footnote:

More than one serotype found in several samples

2.1.4 Salmonella in feedingstuffs

A. Salmonella spp. in Feed

Monitoring system

Sampling strategy

Official monitoring based on risk assessment, own check programme by the industry based on HACCP.

Frequency of the sampling

Domestic feed material of plant origin

Other: ____ Assigned sampling plan, random samples are collected based on an official surveillance programme.

Domestic feed material of animal origin

Other: ____ See above

Imported feed material of plant origin

Other: ____ See above

Imported feed material of animal origin

Other: ____ See above

Process control in feed mills

Other: ____ See above

Compound feedingstuffs

Other: ____ See above

Type of specimen taken

Domestic feed material of plant origin

Feed material of cereal grain and oil seed or fruit origin

Domestic feed material of animal origin

Fish meal, dried animal by-products for pets

Imported feed material of plant origin

Oil seed meals and cakes

Imported feed material of animal origin

Fish meal, dried animal by-products for pets

Process control in feed mills

Not applicable (n. a.)

Compound feedingstuffs

Feed for poultry

Methods of sampling (description of sampling techniques)

Domestic feed material of plant origin

Sampling is performed according EC-Directive 76/371/EEC applying special hygiene requirements or sampling of original packaged products.

Domestic feed material of animal origin

See above

Imported feed material of plant origin

See above

Imported feed material of animal origin

See above

Process control in feed mills

See above

Compound feedingstuffs

See above

Definition of positive finding

Domestic feed material of plant origin

Salmonella spp. isolated from the sample

Domestic feed material of animal origin

Salmonella spp. isolated from the sample

Imported feed material of plant origin

Salmonella spp. isolated from the sample

Imported feed material of animal origin

Salmonella spp. isolated from the sample

Process control in feed mills

Salmonella spp. isolated from the sample

Compound feedingstuffs

Salmonella spp. isolated from the sample

Diagnostic/analytical methods used

Domestic feed material of plant origin

Other: ___Bacteriological method: ISO 6579:2002; sample weight: 25 g; all isolates are sent to the NRL Salmonella and are serotyped according to the Kauffmann-White-Scheme. All S. Enteritidis and S. Typhimurium isolates are lysotyped according to the methods used by HPA, Colindale, UK.

Domestic feed material of animal origin

Other: ___as above

Imported feed material of plant origin

Other: ___as above

Imported feed material of animal origin

Other: ___as above

Process control in feed mills

Other: ___as above

Compound feedingstuffs

Other: ____as above

Control program/mechanisms

The control program/strategies in place

National legislation: BGBl. Nr. 139/1999 (Futtermittelgesetz 1999, § 3) and BGBl. Nr. 93/2000 (Futtermittelverordnung 2000, as amended) containing general requirements for feedingstuffs and BGBl. II Nr. 243/2000 (Geflügelhygieneverordnung 2000).

EC: VO (EG) 183/2005 (Futtermittelhygieneverordnung) and VO (EG) 882/2004 (Kontrollverordnung) with regard to salmonella monitoring, general requirements for feed material and compound feed, coordinated annual control program

Suggestions to the Community for the actions to be taken

Nil

Measures in case of the positive findings

Domestic feed material of plant origin

In the event of a positive result, the notification results in the confiscation of the infected feedingstuffs according to official measures. This includes the withdrawal of the feedingstuffs from the market, the recall of feed, decontamination of the feed, disposal or other use of the feed, exploration and elimination of the sources of contamination and operational measures to prevent future contaminations.

Domestic feed material of animal origin

See above

Imported feed material of plant origin

See above

Imported feed material of animal origin

See above

Process control in feed mills

See above

Compound feedingstuffs

See above

Notification system in place

The Rapid Alert System for Food and Feed (RASFF) notifies the local authorities and the system has been in place since 1979. The legal basis of the RASFF is Regulation EC/178/2002.

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

In the last 20 years, the quality of feed has improved due to the increase of numbers of farms, processing plants and retailer using HACCP concepts, traceability of contaminated feed/components of feed and palletizing feed/contaminated feed. In 2010, data from feedingstuffs (n = 244; only feedingstuffs for food producing animals, exclusive pet feed) indicate that the prevalence of salmonella (< 1%) remains very low. Although in pet feed Salmonella was detected in 11% (10 out of 91) of analysed samples.

Additional information

Nil

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Agona	S. Anatum	S. Goldcoast
Compound feedingstuffs for cattle - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	1	0						
Compound feedingstuffs for pigs - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	3	0						
Compound feedingstuffs for pigs - final product - non-pelleted/meal - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	20	0						
Compound feedingstuffs for pigs - final product - pelleted - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	2	0						
Compound feedingstuffs for pigs - process control - non-pelleted/meal - at feed mill - domestic production - Surveillance - official controls - objective sampling		Batch	25g	8	0						
Compound feedingstuffs for pigs - process control - non-pelleted/meal - at processing plant - Surveillance - official controls - objective sampling		Batch	25g	13	0						
Compound feedingstuffs for pigs - process control - pelleted - at processing plant - domestic production - Surveillance - official controls - objective sampling		Batch	25g	2	0						

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Agona	S. Anatum	S. Goldcoast
Compound feedingstuffs for poultry (non specified) - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	12	0						
Compound feedingstuffs for poultry (non specified) - final product - non-pelleted/meal - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	11	0						
Compound feedingstuffs for poultry (non specified) - final product - pelleted - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	3	0						
Compound feedingstuffs for poultry (non specified) - process control - non-pelleted/meal - at processing plant - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0						
Compound feedingstuffs for poultry - broilers - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	8	0						
Compound feedingstuffs for poultry - broilers - final product - non-pelleted/meal - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	3	0						
Compound feedingstuffs for poultry - broilers - final product - pelleted - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	3	0						

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Agona	S. Anatum	S. Goldcoast
Compound feedingstuffs for poultry - broilers - final product - pelleted - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0						
Compound feedingstuffs for poultry - broilers - process control - non-pelleted/meal - at processing plant - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0						
Compound feedingstuffs for poultry - broilers - process control - pelleted - at processing plant - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0						
Compound feedingstuffs for poultry - laying hens - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	29	0						
Compound feedingstuffs for poultry - laying hens - final product - non-pelleted/meal - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	16	0						
Compound feedingstuffs for poultry - laying hens - final product - pelleted - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	1	0						
Compound feedingstuffs for poultry - laying hens - process control - non-pelleted/meal - at feed mill - domestic production - Surveillance - official controls - objective sampling		Batch	25g	3	0						

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Agona	S. Anatum	S. Goldcoast
Compound feedingstuffs for poultry - laying hens - process control - non-pelleted/meal - at processing plant - domestic production - Surveillance - official controls - objective sampling		Batch	25g	4	0						
Compound feedingstuffs for turkeys - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	1	0						
Compound feedingstuffs for turkeys - final product - non-pelleted/meal - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	2	0						
Compound feedingstuffs for turkeys - final product - pelleted - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	2	0						
Compound feedingstuffs for turkeys - final product - pelleted - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0						
Compound feedingstuffs for turkeys - process control - non-pelleted/meal - at processing plant - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0						
Compound feedingstuffs for turkeys - process control - pelleted - at processing plant - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0						

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Agona	S. Anatum	S. Goldcoast
Compound feedingstuffs, not specified - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	2	0						
Pet food - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	3	0						
Pet food - dog snacks (pig ears, chewing bones) - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	1	0						
Pet food - dog snacks (pig ears, chewing bones) - at processing plant - Surveillance - official controls - objective sampling		Batch	25g	10	0						
Pet food - dog snacks (pig ears, chewing bones) - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	53	8		1		2		1
Pet food - dog snacks (pig ears, chewing bones) - at retail - imported - Surveillance - official controls - objective sampling		Batch	25g	24	2					1	

	S. Newport	S. Reading	S. Saintpaul	S. group B, monophasic strain
Compound feedingstuffs for cattle - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling				

Table Salmonella in compound feedingstuffs

	S. Newport	S. Reading	S. Saintpaul	S. group B, monophasic strain
Compound feedingstuffs for pigs - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling				
Compound feedingstuffs for pigs - final product - non-pelleted/meal - at retail - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for pigs - final product - pelleted - at retail - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for pigs - process control - non-pelleted/meal - at feed mill - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for pigs - process control - non-pelleted/meal - at processing plant - Surveillance - official controls - objective sampling				
Compound feedingstuffs for pigs - process control - pelleted - at processing plant - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry (non specified) - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling				

Table Salmonella in compound feedingstuffs

	S. Newport	S. Reading	S. Saintpaul	S. group B, monophasic strain
Compound feedingstuffs for poultry (non specified) - final product - non-pelleted/meal - at retail - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry (non specified) - final product - pelleted - at farm - feed sample - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry (non specified) - process control - non-pelleted/meal - at processing plant - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry - broilers - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry - broilers - final product - non-pelleted/meal - at retail - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry - broilers - final product - pelleted - at farm - feed sample - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry - broilers - final product - pelleted - at retail - domestic production - Surveillance - official controls - objective sampling				

Table Salmonella in compound feedingstuffs

	S. Newport	S. Reading	S. Saintpaul	S. group B, monophasic strain
Compound feedingstuffs for poultry - broilers - process control - non-pelleted/meal - at processing plant - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry - broilers - process control - pelleted - at processing plant - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry - laying hens - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry - laying hens - final product - non-pelleted/meal - at retail - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry - laying hens - final product - pelleted - at farm - feed sample - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry - laying hens - process control - non-pelleted/meal - at feed mill - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for poultry - laying hens - process control - non-pelleted/meal - at processing plant - domestic production - Surveillance - official controls - objective sampling				

Table Salmonella in compound feedingstuffs

	S. Newport	S. Reading	S. Saintpaul	S. group B, monophasic strain
Compound feedingstuffs for turkeys - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling				
Compound feedingstuffs for turkeys - final product - non-pelleted/meal - at retail - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for turkeys - final product - pelleted - at farm - feed sample - Surveillance - official controls - objective sampling				
Compound feedingstuffs for turkeys - final product - pelleted - at retail - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for turkeys - process control - non-pelleted/meal - at processing plant - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs for turkeys - process control - pelleted - at processing plant - domestic production - Surveillance - official controls - objective sampling				
Compound feedingstuffs, not specified - final product - non-pelleted/meal - at farm - feed sample - Surveillance - official controls - objective sampling				

Table Salmonella in compound feedingstuffs

	S. Newport	S. Reading	S. Saintpaul	S. group B, monophasic strain
Pet food - at retail - domestic production - Surveillance - official controls - objective sampling				
Pet food - dog snacks (pig ears, chewing bones) - at farm - feed sample - Surveillance - official controls - objective sampling				
Pet food - dog snacks (pig ears, chewing bones) - at processing plant - Surveillance - official controls - objective sampling				
Pet food - dog snacks (pig ears, chewing bones) - at retail - domestic production - Surveillance - official controls - objective sampling	1	1	1	1
Pet food - dog snacks (pig ears, chewing bones) - at retail - imported - Surveillance - official controls - objective sampling	1			

Footnote:

Source of information: AGES Institute for Agricultural Analysis, Linz

Table Salmonella in feed material of animal origin

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Agona
Feed material of land animal origin - at processing plant - domestic production - Surveillance - official controls - objective sampling		Batch	25g	2	1				1
Feed material of marine animal origin - fish meal - at feed mill - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0				
Feed material of marine animal origin - fish meal - at processing plant - Surveillance - official controls - objective sampling		Batch	25g	7	0				
Feed material of marine animal origin - fish meal - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	15	0				
Feed material of marine animal origin - fish oil - at processing plant - Surveillance - official controls - objective sampling		Batch	25g	2	0				
Feed material of marine animal origin - fish oil - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0				

Footnote:

Source of information: AGES Institute for Agricultural Analysis, Linz

Table Salmonella in other feed matter

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. 6,7:-:-
Feed material of oil seed or fruit origin - linseed derived - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	2	0				
Feed material of oil seed or fruit origin - other oil seeds derived - at feed mill - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0				
Feed material of oil seed or fruit origin - other oil seeds derived - at processing plant - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0				
Feed material of oil seed or fruit origin - rape seed derived - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	1	0				
Feed material of oil seed or fruit origin - rape seed derived - at processing plant - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0				
Feed material of oil seed or fruit origin - rape seed derived - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	4	0				
Feed material of oil seed or fruit origin - soya (bean) derived - at farm - feed sample - Surveillance - official controls - objective sampling		Batch	25g	3	0				

Table Salmonella in other feed matter

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. 6,7:-:-
Feed material of oil seed or fruit origin - soya (bean) derived - at feed mill - domestic production - Surveillance - official controls - objective sampling		Batch	25g	3	1				1
Feed material of oil seed or fruit origin - soya (bean) derived - at processing plant - Surveillance - official controls - objective sampling		Batch	25g	8	0				
Feed material of oil seed or fruit origin - soya (bean) derived - at retail - Surveillance - official controls - objective sampling		Batch	25g	28	0				
Feed material of oil seed or fruit origin - sunflower seed derived - at processing plant - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0				
Feed material of oil seed or fruit origin - sunflower seed derived - at retail - Surveillance - official controls - objective sampling		Batch	25g	6	0				
Other feed material - tubers, roots and similar products - at retail - domestic production - Surveillance - official controls - objective sampling		Batch	25g	1	0				

Footnote:

Source of information: AGES Institute for Agricultural Analysis, Linz

2.1.5 Salmonella serovars and phagetype distribution

The methods of collecting, isolating and testing of the Salmonella isolates are described in the chapters above respectively for each animal species, foodstuffs and humans. The serotype and phagetype distributions can be used to investigate the sources of the Salmonella infections in humans. Findings of same serovars and phagetypes in human cases and in foodstuffs or animals may indicate that the food category or animal species in question serves as a source of human infections. However as information is not available from all potential sources of infections, conclusions have to be drawn with caution.

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Sources of isolates													
Number of isolates in the laboratory		43				31				279			
Number of isolates serotyped	0	43	0	0	0	31	0	0	0	279	0	0	0
Number of isolates per serovar													
S. 16:d:-													
S. Abony										3			
S. Adelaide										1			
S. Agona										1			
S. Bovismorbificans										2			
S. Braenderup										7			

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Sources of isolates													
Number of isolates in the laboratory		43				31				279			
Number of isolates serotyped	0	43	0	0	0	31	0	0	0	279	0	0	0
Number of isolates per serovar													
S. Brandenburg													
S. Bredeney										3			
S. Choleraesuis						6							
S. Coeln													
S. Dublin		38								2			
S. Enteritidis										114			
S. Hadar										1			
S. Heidelberg										5			
S. Illb 38:r:z										2			
S. Illb 61:k:1,5,(7)										1			
S. Indiana										1			

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Sources of isolates													
Number of isolates in the laboratory		43				31				279			
Number of isolates serotyped	0	43	0	0	0	31	0	0	0	279	0	0	0
Number of isolates per serovar													
S. Infantis										30			
S. Kedougou						1				1			
S. Kentucky						1				5			
S. Kottbus										8			
S. Livingstone										1			
S. London										2			
S. Mbandaka										9			
S. Montevideo										23			
S. Newport													
S. Ohio													
S. Panama										1			

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Sources of isolates													
Number of isolates in the laboratory		43				31				279			
Number of isolates serotyped	0	43	0	0	0	31	0	0	0	279	0	0	0
Number of isolates per serovar													
S. Paratyphi B var. Java										1			
S. Regent													
S. Saintpaul										3			
S. Schwarzengrund										1			
S. Senftenberg										2			
S. Stanleyville										2			
S. Tennessee										3			
S. Thompson										7			
S. Typhimurium		5				23				28			
S. Worthington										5			
S. group B, monophasic strain										2			

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
Sources of isolates	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Number of isolates in the laboratory		43				31				279			
Number of isolates serotyped	0	43	0	0	0	31	0	0	0	279	0	0	0
Number of isolates per serovar													
S. group C2, monophasic strain										2			

Serovar	Other poultry			Turkeys			
Sources of isolates	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Number of isolates in the laboratory					139		
Number of isolates serotyped	0	0	0	0	139	0	0
Number of isolates per serovar							
S. 16:d:-					1		
S. Abony					1		
S. Adelaide							
S. Agona					1		
S. Bovismorbificans							

Table Salmonella serovars in animals

Serovar	Other poultry			Turkeys			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Sources of isolates							
Number of isolates in the laboratory					139		
Number of isolates serotyped	0	0	0	0	139	0	0
Number of isolates per serovar							
S. Braenderup							
S. Brandenburg					3		
S. Bredeney					2		
S. Choleraesuis							
S. Coeln					10		
S. Dublin							
S. Enteritidis					1		
S. Hadar							
S. Heidelberg							
S. IIIb 38:r:z							
S. IIIb 61:k:1,5,(7)							

Table Salmonella serovars in animals

Serovar	Other poultry			Turkeys			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Sources of isolates							
Number of isolates in the laboratory					139		
Number of isolates serotyped	0	0	0	0	139	0	0
Number of isolates per serovar							
S. Indiana							
S. Infantis					7		
S. Kedougou							
S. Kentucky							
S. Kottbus					20		
S. Livingstone							
S. London							
S. Mbandaka							
S. Montevideo					7		
S. Newport					8		
S. Ohio					1		

Table Salmonella serovars in animals

Serovar	Other poultry			Turkeys			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Sources of isolates							
Number of isolates in the laboratory					139		
Number of isolates serotyped	0	0	0	0	139	0	0
Number of isolates per serovar							
S. Panama							
S. Paratyphi B var. Java							
S. Regent					1		
S. Saintpaul					64		
S. Schwarzengrund							
S. Senftenberg					3		
S. Stanleyville							
S. Tennessee							
S. Thompson							
S. Typhimurium					9		
S. Worthington							

Table Salmonella serovars in animals

Serovar	Other poultry			Turkeys			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Sources of isolates							
Number of isolates in the laboratory					139		
Number of isolates serotyped	0	0	0	0	139	0	0
Number of isolates per serovar							
S. group B, monophasic strain							
S. group C2, monophasic strain							

Table Salmonella serovars in food

Serovar	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Meat from other poultry species		Other products of animal origin		Meat from turkey	
	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Sources of isolates												
Number of isolates in the laboratory	2		7		36						35	
Number of isolates serotyped	2	0	7	0	36	0	0	0	0	0	35	0
Number of isolates per serovar												
S. Brandenburg											3	
S. Bredeney											4	
S. Derby			2									
S. Enteritidis			1		1						1	
S. Heidelberg											3	
S. Indiana					1							
S. Infantis					27						1	
S. Isangi					1							
S. Kentucky											3	
S. Mbandaka			1									
S. Muenster	2										2	

Table Salmonella serovars in food

Serovar	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Meat from other poultry species		Other products of animal origin		Meat from turkey	
	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Sources of isolates												
Number of isolates in the laboratory	2		7		36						35	
Number of isolates serotyped	2	0	7	0	36	0	0	0	0	0	35	0
Number of isolates per serovar												
S. Newport					1							
S. Saintpaul											14	
S. Tennessee											1	
S. Thompson					3							
S. Typhimurium			3		1						3	
S. group B H-					1							

Table Salmonella Enteritidis phagetypes in animals

Phagetype	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Sources of isolates													
Number of isolates in the laboratory										114			
Number of isolates phagetyped	0	0	0	0	0	0	0	0	0	114	0	0	0
Number of isolates per phagetype													
19										5			
1d										4			
4										18			
4b										1			
6										11			
7										8			
8										43			
PT 13a										1			
PT 14b										2			
PT 21										11			
PT 23										3			

Table Salmonella Enteritidis phage types in animals

Phagetype	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Sources of isolates													
Number of isolates in the laboratory										114			
Number of isolates phagetyped	0	0	0	0	0	0	0	0	0	114	0	0	0
Number of isolates per phagetype													
RDNC										7			

Phagetype	Other poultry			Turkeys			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Sources of isolates							
Number of isolates in the laboratory					1		
Number of isolates phagetyped	0	0	0	0	1	0	0
Number of isolates per phagetype							
19							
1d							
4					1		
4b							
6							

Table Salmonella Enteritidis phagetypes in animals

Phagetype	Other poultry			Turkeys			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Sources of isolates							
Number of isolates in the laboratory					1		
Number of isolates phagetyped	0	0	0	0	1	0	0
Number of isolates per phagetype							
7							
8							
PT 13a							
PT 14b							
PT 21							
PT 23							
RDNC							

Table *Salmonella* Enteritidis phagetypes in food

Phagetype	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Meat from other poultry species		Other products of animal origin		Meat from turkey	
	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Sources of isolates												
Number of isolates in the laboratory			1		1						1	
Number of isolates phagetyped	0	0	1	0	1	0	0	0	0	0	1	0
Number of isolates per phagetype												
6					1							
8			1									
PT 35											1	

Table Salmonella Typhimurium phagetypes in animals

Phagetype	Cattle (bovine animals)				Pigs				Gallus gallus (fowl)				Other poultry
	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance	Control program
Sources of isolates													
Number of isolates in the laboratory		5				23				28			
Number of isolates phagetyped	0	5	0	0	0	23	0	0	0	28	0	0	0
Number of isolates per phagetype													
DT 1										1			
DT 104H										3			
DT 104I		3				20				1			
DT 193						3				3			
DT 3										5			
DT 41										3			
DT RDNC		1								10			
DT U291										1			
U 311		1								1			

Table Salmonella Typhimurium phage types in animals

Phagetype	Other poultry			Turkeys			
	Monitoring	Clinical	Surveillance	Control program	Monitoring	Clinical	Surveillance
Sources of isolates							
Number of isolates in the laboratory					9		
Number of isolates phagetyped	0	0	0	0	9	0	0
Number of isolates per phagetype							
DT 1					2		
DT 104H							
DT 104I					2		
DT 193					5		
DT 3							
DT 41							
DT RDNC							
DT U291							
U 311							

Table Salmonella Typhimurium phage types in food

Phagetype	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Meat from other poultry species		Other products of animal origin		Meat from turkey	
	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance	Monitoring	Surveillance
Sources of isolates												
Number of isolates in the laboratory			3		1						3	
Number of isolates phagetyped	0	0	3	0	1	0	0	0	0	0	3	0
Number of isolates per phagetype												
DT 1											2	
DT 120			2									
DT 193			1									
DT RDNC					1							
DT U302											1	

2.1.6 Antimicrobial resistance in Salmonella isolates

A. Antimicrobial resistance of Salmonella spp. in Food

Sampling strategy used in monitoring

Frequency of the sampling

All Salmonella spp. isolated in veterinary and food laboratories, as well as all primary isolates from humans were sent to the NRC-S where the susceptibility testing was performed using the disk diffusion method.

Salmonella isolates from the control programmes in laying hens, broilers and turkeys although were subjected to MIC-testing; all unique strains isolated from one epidemiological unit in the course of the control programmes.

Type of specimen taken

Monitoring samples and samples obtained in the control programs from humans; for animals and food see chapters Salmonella spp. in animal species and Salmonella spp. in food.

Methods of sampling (description of sampling techniques)

Clinical samples from humans; for animals and food see chapters Salmonella spp. in animal species and Salmonella spp. in food.

Procedures for the selection of isolates for antimicrobial testing

All Salmonella spp. isolated in veterinary and food laboratories, as well as all primary isolates from humans were sent to the NRC-S where the susceptibility testing was performed using the disk diffusion method.

All unique strains isolated in the course of the control program (identical strains from one epidemiological unit only once) were subjected to microdilution susceptibility testing.

Laboratory methodology used for identification of the microbial isolates

See chapter salmonellosis in humans; for the MIC testing CLSI standards are used, applying EU-RL (European Reference Laboratory) cut-off values.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

All Salmonella isolates were susceptibility tested (disc diffusion) according to CLSI. Isolates obtained in course of the control programs were tested according CD Nr. 2007/407/EC. See corresponding tables! Number of fully-susceptible and number of isolates resistant to 1, 2, 3, 4 or >4 antimicrobials of different classes, excluding cross-resistance. For Salmonella this includes resistance to ampicillin, cefotaxime, ciprofloxacin, streptomycin, gentamicin, tetracycline, chloramphenicol, trimethoprim and sulphamethoxazole.

Control program/mechanisms

Recent actions taken to control the zoonoses

Nil

Suggestions to the Community for the actions to be taken

An EU standardized antimicrobial resistance monitoring system would be highly welcome.

Additional information

Nil

B. Antimicrobial resistance of Salmonella spp. in Animals

Sampling strategy used in monitoring

Frequency of the sampling

All Salmonella spp. isolated in veterinary and food laboratories, as well as all primary isolates from humans were sent to the NRC-S where the susceptibility testing was performed using the disk diffusion method.

Salmonella isolates from the control programmes in laying hens, broilers and turkeys although were subjected to MIC-testing; all unique strains isolated from one epidemiological unit in the course of the control programmes.

Type of specimen taken

Monitoring samples and samples obtained in the control programs from humans; for animals and food see chapters Salmonella spp. in animal species and Salmonella spp. in food.

Methods of sampling (description of sampling techniques)

Clinical samples from humans; for animals and food see chapters Salmonella spp. in animal species and Salmonella spp. in food.

Procedures for the selection of isolates for antimicrobial testing

All Salmonella spp. isolated in veterinary and food laboratories, as well as all primary isolates from humans were sent to the NRC-S where the susceptibility testing was performed using the disk diffusion method.

All unique strains isolated in the course of the control program (identical strains from one epidemiological unit only once) were subjected to microdilution susceptibility testing.

Laboratory methodology used for identification of the microbial isolates

See chapter salmonellosis in humans; for the MIC testing CLSI standards are used, applying EU-RL (European Reference Laboratory) cut-off values.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

All Salmonella isolates were susceptibility tested (disc diffusion) according to CLSI. Isolates obtained in course of the control programs were tested according to CD Nr. 2007/407/EC. See corresponding tables! Number of fully-susceptible and number of isolates resistant to 1, 2, 3, 4 or >4 antimicrobials of different classes, excluding cross-resistance. For Salmonella this includes resistance to ampicillin, cefotaxime, ciprofloxacin, streptomycin, gentamicin, tetracycline, chloramphenicol, trimethoprim and sulphamethoxazole.

Control program/mechanisms

Recent actions taken to control the zoonoses

Nil

Suggestions to the Community for the actions to be taken

An EU standardized antimicrobial resistance monitoring system would be highly welcome.

Additional information

Nil

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

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	S. Enteritidis		S. Typhimurium		Salmonella spp.		Other serovars	
	0		5				38	
	N	n	N	n	N	n	N	n
Amphenicols - Chloramphenicol			5	3			38	0
Fluoroquinolones - Ciprofloxacin			5	0			38	0
Quinolones - Nalidixic acid			5	0			38	0
Trimethoprim			5	0			38	0
Aminoglycosides - Streptomycin			5	4			38	31
Aminoglycosides - Gentamicin			5	0			38	0
Aminoglycosides - Kanamycin			5	0			38	0
Penicillins - Ampicillin			5	4			38	0
Tetracyclines - Tetracycline			5	2			38	0
Fully sensitive			5	1			38	7
Resistant to 1 antimicrobial			5	0			38	31
Resistant to 2 antimicrobials			5	0			38	0
Resistant to 3 antimicrobials			5	0			38	0
Resistant to 4 antimicrobials			5	3			38	0
Resistant to >4 antimicrobials			5	1			38	0
Cephalosporins - Cefotaxim			5	0			38	0
Sulphonamides - Sulfamethoxazol			5	4			38	0

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

Table Antimicrobial susceptibility testing of Salmonella in meat from bovine animals

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Salmonella spp.	
	no	
	2	
	N	n
Amphenicols - Chloramphenicol	2	0
Fluoroquinolones - Ciprofloxacin	2	0
Quinolones - Nalidixic acid	2	0
Trimethoprim	2	0
Aminoglycosides - Streptomycin	2	0
Aminoglycosides - Gentamicin	2	0
Aminoglycosides - Kanamycin	2	0
Penicillins - Ampicillin	2	0
Tetracyclines - Tetracycline	2	0
Fully sensitive	2	2
Resistant to 1 antimicrobial	2	0
Resistant to 2 antimicrobials	2	0
Resistant to 3 antimicrobials	2	0
Resistant to 4 antimicrobials	2	0
Resistant to >4 antimicrobials	2	0
Cephalosporins - Cefotaxim	2	0
Sulphonamides - Sulfamethoxazol	2	0

Table Antimicrobial susceptibility testing of Salmonella in meat from bovine animals

Table Antimicrobial susceptibility testing of Salmonella in Pigs

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	S. Enteritidis		S. Typhimurium		Salmonella spp.		Other serovars	
	0		23				8	
	N	n	N	n	N	n	N	n
Amphenicols - Chloramphenicol			23	19			8	0
Fluoroquinolones - Ciprofloxacin			23	0			8	0
Quinolones - Nalidixic acid			23	4			8	0
Trimethoprim			23	7			8	0
Aminoglycosides - Streptomycin			23	23			8	0
Aminoglycosides - Gentamicin			23	0			8	0
Aminoglycosides - Kanamycin			23	3			8	0
Penicillins - Ampicillin			23	22			8	0
Tetracyclines - Tetracycline			23	21			8	0
Fully sensitive			23	0			8	6
Resistant to 1 antimicrobial			23	0			8	2
Resistant to 2 antimicrobials			23	1			8	0
Resistant to 3 antimicrobials			23	0			8	0
Resistant to 4 antimicrobials			23	1			8	0
Resistant to >4 antimicrobials			23	21			8	0
Cephalosporins - Cefotaxim			23	3			8	0
Sulphonamides - Sulfamethoxazol			23	23			8	2

Table Antimicrobial susceptibility testing of Salmonella in Pigs

Table Antimicrobial susceptibility testing of Salmonella in meat from pig

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Salmonella spp.		Other serovars		S. Enteritidis		S. Typhimurium	
			no		no		no	
			3		1		3	
	N	n	N	n	N	n	N	n
Amphenicols - Chloramphenicol			3	0	1	0	3	0
Fluoroquinolones - Ciprofloxacin			3	0	1	0	3	0
Quinolones - Nalidixic acid			3	0	1	0	3	0
Trimethoprim			3	1	1	0	3	0
Aminoglycosides - Streptomycin			3	1	1	0	3	2
Aminoglycosides - Gentamicin			3	0	1	0	3	0
Aminoglycosides - Kanamycin			3	0	1	0	3	0
Penicillins - Ampicillin			3	2	1	0	3	2
Tetracyclines - Tetracycline			3	1	1	0	3	3
Fully sensitive			3	1	1	1	3	1
Resistant to 1 antimicrobial			3	0	1	0	3	0
Resistant to 2 antimicrobials			3	0	1	0	3	0
Resistant to 3 antimicrobials			3	0	1	0	3	0
Resistant to 4 antimicrobials			3	2	1	0	3	2
Resistant to >4 antimicrobials			3	0	1	0	3	0
Cephalosporins - Cefotaxim			3	1	1	0	3	0
Sulphonamides - Sulfamethoxazol			3	2	1	0	3	2

Table Antimicrobial susceptibility testing of Salmonella in meat from pig

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

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Salmonella spp.		Other serovars		S. Enteritidis		S. Typhimurium	
			34		1		1	
	N	n	N	n	N	n	N	n
Amphenicols - Chloramphenicol			34	0	1	0	1	0
Fluoroquinolones - Ciprofloxacin			34	0	1	0	1	0
Quinolones - Nalidixic acid			34	27	1	0	1	0
Trimethoprim			34	1	1	0	1	0
Aminoglycosides - Streptomycin			34	25	1	0	1	0
Aminoglycosides - Gentamicin			34	0	1	0	1	0
Aminoglycosides - Kanamycin			34	1	1	0	1	0
Penicillins - Ampicillin			34	3	1	0	1	0
Tetracyclines - Tetracycline			34	26	1	0	1	0
Fully sensitive			34	6	1	0	1	1
Resistant to 1 antimicrobial			34	1	1	0	1	0
Resistant to 2 antimicrobials			34	0	1	0	1	0
Resistant to 3 antimicrobials			34	31	1	0	1	0
Resistant to 4 antimicrobials			34	31	1	0	1	0
Resistant to >4 antimicrobials			34	2	1	0	1	0
Cephalosporins - Cefotaxim			34	0	1	0	1	0
Sulphonamides - Sulfamethoxazol			34	26	1	0	1	0

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

Table Antimicrobial susceptibility testing of Salmonella in Turkey

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	S. Enteritidis		S. Typhimurium		Salmonella spp.		Other serovars	
	1		9				129	
	N	n	N	n	N	n	N	n
Amphenicols - Chloramphenicol	1	0	9	3			129	0
Fluoroquinolones - Ciprofloxacin	1	0	9	0			129	0
Quinolones - Nalidixic acid	1	0	9	0			129	70
Trimethoprim	1	0	9	0			129	46
Aminoglycosides - Streptomycin	1	0	9	7			129	54
Aminoglycosides - Gentamicin	1	0	9	0			129	1
Aminoglycosides - Kanamycin	1	0	9	0			129	12
Penicillins - Ampicillin	1	0	9	7			129	63
Tetracyclines - Tetracycline	1	0	9	7			129	59
Fully sensitive	1	1	9	2			129	35
Resistant to 1 antimicrobial	1	0	9	0			129	23
Resistant to 2 antimicrobials	1	0	9	0			129	13
Resistant to 3 antimicrobials	1	0	9	0			129	1
Resistant to 4 antimicrobials	1	0	9	4			129	11
Resistant to >4 antimicrobials	1	0	9	3			129	46
Cephalosporins - Cefotaxim	1	0	9	0			129	0
Sulphonamides - Sulfamethoxazol	1	0	9	7			129	57

Table Antimicrobial susceptibility testing of Salmonella in Turkeys

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

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	S. Enteritidis		S. Typhimurium		Salmonella spp.		Other serovars	
	96		21				51	
	N	n	N	n	N	n	N	n
Amphenicols - Chloramphenicol	96	0	21	1			51	0
Fluoroquinolones - Ciprofloxacin	96	0	21	0			51	0
Quinolones - Nalidixic acid	96	0	21	0			51	2
Trimethoprim	96	0	21	1			51	2
Aminoglycosides - Streptomycin	96	0	21	3			51	6
Aminoglycosides - Gentamicin	96	0	21	0			51	0
Aminoglycosides - Kanamycin	96	0	21	1			51	0
Penicillins - Ampicillin	96	0	21	3			51	3
Tetracyclines - Tetracycline	96	7	21	3			51	9
Fully sensitive	96	89	21	18			51	36
Resistant to 1 antimicrobial	96	7	21	0			51	11
Resistant to 2 antimicrobials	96	0	21	0			51	2
Resistant to 3 antimicrobials	96	0	21	0			51	0
Resistant to 4 antimicrobials	96	0	21	1			51	0
Resistant to >4 antimicrobials	96	0	21	2			51	2
Cephalosporins - Cefotaxim	96	0	21	0			51	0
Sulphonamides - Sulfamethoxazol	96	0	21	3			51	2

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

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

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	S. Enteritidis		S. Typhimurium		Salmonella spp.		Other serovars	
	18		7				86	
	N	n	N	n	N	n	N	n
Amphenicols - Chloramphenicol	18	0	7	0			86	0
Fluoroquinolones - Ciprofloxacin	18	0	7	0			86	0
Quinolones - Nalidixic acid	18	0	7	0			86	28
Trimethoprim	18	1	7	0			86	0
Aminoglycosides - Streptomycin	18	0	7	0			86	23
Aminoglycosides - Gentamicin	18	0	7	0			86	0
Aminoglycosides - Kanamycin	18	0	7	0			86	0
Penicillins - Ampicillin	18	1	7	1			86	3
Tetracyclines - Tetracycline	18	1	7	0			86	23
Fully sensitive	18	17	7	6			86	54
Resistant to 1 antimicrobial	18	0	7	1			86	9
Resistant to 2 antimicrobials	18	0	7	0			86	0
Resistant to 3 antimicrobials	18	0	7	0			86	2
Resistant to 4 antimicrobials	18	1	7	0			86	21
Resistant to >4 antimicrobials	18	0	7	0			86	0
Cephalosporins - Cefotaxim	18	0	7	0			86	0
Sulphonamides - Sulfamethoxazol	18	1	7	0			86	22

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

Table Antimicrobial susceptibility testing of Salmonella in Meat from turkey

Salmonella Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Other serovars		S. Enteritidis		S. Typhimurium	
	31		1		3	
	N	n	N	n	N	n
Antimicrobials:						
Amphenicols - Chloramphenicol	31	0	1	0	3	1
Tetracyclines - Tetracycline	31	15	1	1	3	1
Fluoroquinolones - Ciprofloxacin	31	3	1	0	3	0
Quinolones - Nalidixic acid	31	18	1	0	3	1
Trimethoprim	31	4	1	0	3	0
Aminoglycosides - Streptomycin	31	12	1	1	3	1
Aminoglycosides - Gentamicin	31	3	1	0	3	0
Aminoglycosides - Kanamycin	31	3	1	0	3	0
Penicillins - Ampicillin	31	15	1	1	3	1
Cephalosporins - Cefotaxim	31	0	1	0	3	0
Fully sensitive	31	7	1	0	3	2
Resistant to 1 antimicrobial	31	7	1	0	3	1
Resistant to 2 antimicrobials	31	1	1	0	3	0
Resistant to 3 antimicrobials	31	5	1	1	3	0
Resistant to 4 antimicrobials	31	0	1	0	3	0
Resistant to >4 antimicrobials	31	11	1	0	3	0
Sulphonamides - Sulfamethoxazol	31	13	1	0	3	1

Table Antimicrobial susceptibility testing of Salmonella in Meat from turkey

Table Antimicrobial susceptibility testing of *S. Mbandaka* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Mbandaka	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	3	0																			1		2			
Amphenicols - Florfenicol	16	3	0																			2		1			
Tetracyclines - Tetracycline	8	3	2															1									
Fluoroquinolones - Ciprofloxacin	0.06	3	0			2		1																			
Quinolones - Nalidixic acid	16	3	0																			3					
Trimethoprim	2	3	0													3											
Aminoglycosides - Streptomycin	32	3	0																					3			
Aminoglycosides - Gentamicin	2	3	0											2		1											
Aminoglycosides - Kanamycin	4	3	0																			3					
Penicillins - Ampicillin	4	3	0													1		1		1							
Cephalosporins - Cefotaxim	0.5	3	0							1		2															
Cephalosporins - Ceftazidim	2	3	0											1		2											
Polymyxins - Colistin	2	3	0																	3							
Sulphonamides - Sulfamethoxazol	256	3	0																								

Table Antimicrobial susceptibility testing of *S. Mbandaka* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Mbandaka	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline					2													1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				3														8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium - DT 1 in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

DT 1	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																												
	Isolates out of a monitoring program (yes/no)																												
		Number of isolates available in the laboratory																											
			Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																					1					
Amphenicols - Florfenicol	16	1	0																					1					
Tetracyclines - Tetracycline	8	1	1																										
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																							
Quinolones - Nalidixic acid	16	1	0																					1					
Trimethoprim	2	1	1																										
Aminoglycosides - Streptomycin	32	1	1																										
Aminoglycosides - Gentamicin	2	1	0														1												
Aminoglycosides - Kanamycin	4	1	1																										
Penicillins - Ampicillin	4	1	1																										
Cephalosporins - Cefotaxim	0.5	1	0										1																
Cephalosporins - Ceftazidim	2	1	0														1												
Polymyxins - Colistin	2	1	0																			1							
Sulphonamides - Sulfamethoxazol	256	1	1																										

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT 1 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

DT 1	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline					1													1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim			1															0.5	32
Aminoglycosides - Streptomycin							1											2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin							1											4	128
Penicillins - Ampicillin			1															0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol													1					8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 8 in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 8	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	13	0																			9		4			
Amphenicols - Florfenicol	16	13	0																	1		12					
Tetracyclines - Tetracycline	8	13	0															2		11							
Fluoroquinolones - Ciprofloxacin	0.06	13	0			8		5																			
Quinolones - Nalidixic acid	16	13	0																			13					
Trimethoprim	2	13	0													13											
Aminoglycosides - Streptomycin	32	13	0																	6		7					
Aminoglycosides - Gentamicin	2	13	0											9		4											
Aminoglycosides - Kanamycin	4	13	0																			13					
Penicillins - Ampicillin	4	13	0															3		9		1					
Cephalosporins - Cefotaxim	0.5	13	0							9		4															
Cephalosporins - Ceftazidim	2	13	0											12		1											
Polymyxins - Colistin	2	13	0																	13							
Sulphonamides - Sulfamethoxazol	256	13	0																								

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 8 in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 8	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1		12														8	1024

Table Antimicrobial susceptibility testing of *S. Bovismorbificans* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Bovismorbificans	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	2	0																			2				
Amphenicols - Florfenicol	16	2	0																			2				
Tetracyclines - Tetracycline	8	2	0															1		1						
Fluoroquinolones - Ciprofloxacin	0.06	2	0			2																				
Quinolones - Nalidixic acid	16	2	0																			1		1		
Trimethoprim	2	2	0													2										
Aminoglycosides - Streptomycin	32	2	0																					2		
Aminoglycosides - Gentamicin	2	2	0											2												
Aminoglycosides - Kanamycin	4	2	0																			2				
Penicillins - Ampicillin	4	2	0															1		1						
Cephalosporins - Cefotaxim	0.5	2	0							2																
Cephalosporins - Ceftazidim	2	2	0											2												
Polymyxins - Colistin	2	2	1																	1		1				
Sulphonamides - Sulfamethoxazol	256	2	0																							

Table Antimicrobial susceptibility testing of *S. Bovismorbificans* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Bovismorbificans	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1		1												8	1024

Table Antimicrobial susceptibility testing of *S. Dublin* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Dublin	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	3	0																			3					
Amphenicols - Florfenicol	16	3	0																			3					
Tetracyclines - Tetracycline	8	3	0															1		2							
Fluoroquinolones - Ciprofloxacin	0.06	3	0			2		1																			
Quinolones - Nalidixic acid	16	3	0																			2		1			
Trimethoprim	2	3	0													3											
Aminoglycosides - Streptomycin	32	3	0																			2		1			
Aminoglycosides - Gentamicin	2	3	0											3													
Aminoglycosides - Kanamycin	4	3	0																			3					
Penicillins - Ampicillin	4	3	0													2		1									
Cephalosporins - Cefotaxim	0.5	3	0							3																	
Cephalosporins - Ceftazidim	2	3	0											3													
Polymyxins - Colistin	2	3	0																	3							
Sulphonamides - Sulfamethoxazol	256	3	0																					1		1	

Table Antimicrobial susceptibility testing of S. Dublin in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Dublin	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1																8	1024

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT RDNC in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

DT RDNC	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	3	0																			1		2			
Amphenicols - Florfenicol	16	3	0																			3					
Tetracyclines - Tetracycline	8	3	0																	3							
Fluoroquinolones - Ciprofloxacin	0.06	3	0					3																			
Quinolones - Nalidixic acid	16	3	0																			3					
Trimethoprim	2	3	0													3											
Aminoglycosides - Streptomycin	32	3	0																			1		2			
Aminoglycosides - Gentamicin	2	3	0											3													
Aminoglycosides - Kanamycin	4	3	0																			3					
Penicillins - Ampicillin	4	3	0															1		2							
Cephalosporins - Cefotaxim	0.5	3	0							2		1															
Cephalosporins - Ceftazidim	2	3	0											2		1											
Polymyxins - Colistin	2	3	0																	3							
Sulphonamides - Sulfamethoxazol	256	3	0																								

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT RDNC in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

DT RDNC	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		2		1														8	1024

Table Antimicrobial susceptibility testing of *S. Thompson* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Thompson	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	2	0																						2		
Amphenicols - Florfenicol	16	2	0																			2					
Tetracyclines - Tetracycline	8	2	0																	2							
Fluoroquinolones - Ciprofloxacin	0.06	2	0					2																			
Quinolones - Nalidixic acid	16	2	0																			2					
Trimethoprim	2	2	0													2											
Aminoglycosides - Streptomycin	32	2	0																						2		
Aminoglycosides - Gentamicin	2	2	0											1		1											
Aminoglycosides - Kanamycin	4	2	0																			2					
Penicillins - Ampicillin	4	2	0															2									
Cephalosporins - Cefotaxim	0.5	2	0							2																	
Cephalosporins - Ceftazidim	2	2	0											2													
Polymyxins - Colistin	2	2	0																		2						
Sulphonamides - Sulfamethoxazol	256	2	0																								

Table Antimicrobial susceptibility testing of *S. Thompson* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Thompson	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				2														8	1024

Table Antimicrobial susceptibility testing of *S. Kottbus* in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Kottbus	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	13	0																			10		3			
Amphenicols - Florfenicol	16	13	0																			12		1			
Tetracyclines - Tetracycline	8	13	0															2		10		1					
Fluoroquinolones - Ciprofloxacin	0.06	13	0			10		3																			
Quinolones - Nalidixic acid	16	13	0																			13					
Trimethoprim	2	13	0													13											
Aminoglycosides - Streptomycin	32	13	0																					11		2	
Aminoglycosides - Gentamicin	2	13	0											9		3		1									
Aminoglycosides - Kanamycin	4	13	0																			13					
Penicillins - Ampicillin	4	13	0															10		3							
Cephalosporins - Cefotaxim	0.5	13	0							9		3		1													
Cephalosporins - Ceftazidim	2	13	0											11		2											
Polymyxins - Colistin	2	13	0																	13							
Sulphonamides - Sulfamethoxazol	256	13	0																								

Table Antimicrobial susceptibility testing of S. Kottbus in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Kottbus	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Antimicrobials:																			
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		7		6														8	1024

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT 41 in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

DT 41	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	1	0																			1						
Amphenicols - Florfenicol	16	1	0																			1						
Tetracyclines - Tetracycline	8	1	0																	1								
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																						
Quinolones - Nalidixic acid	16	1	0																			1						
Trimethoprim	2	1	0													1												
Aminoglycosides - Streptomycin	32	1	0																					1				
Aminoglycosides - Gentamicin	2	1	0											1														
Aminoglycosides - Kanamycin	4	1	0																			1						
Penicillins - Ampicillin	4	1	0																	1								
Cephalosporins - Cefotaxim	0.5	1	0									1																
Cephalosporins - Ceftazidim	2	1	0											1														
Polymyxins - Colistin	2	1	0																	1								
Sulphonamides - Sulfamethoxazol	256	1	0																									

Table Antimicrobial susceptibility testing of S. Typhimurium - DT 41 in Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

DT 41	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Montevideo* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Montevideo	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	30	0																			8		22			
Amphenicols - Florfenicol	16	30	0																			29		1			
Tetracyclines - Tetracycline	8	30	0															2		28							
Fluoroquinolones - Ciprofloxacin	0.06	30	0	1		11		18																			
Quinolones - Nalidixic acid	16	30	0																			29		1			
Trimethoprim	2	30	0													30											
Aminoglycosides - Streptomycin	32	30	0																			5		25			
Aminoglycosides - Gentamicin	2	30	0											21		9											
Aminoglycosides - Kanamycin	4	30	0																			30					
Penicillins - Ampicillin	4	30	0													1		13		16							
Cephalosporins - Cefotaxim	0.5	30	0							15		14		1													
Cephalosporins - Ceftazidim	2	30	0											26		4											
Polymyxins - Colistin	2	30	0																	30							
Sulphonamides - Sulfamethoxazol	256	30	0																								

Table Antimicrobial susceptibility testing of *S. Montevideo* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Montevideo	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1		28		1												8	1024

Table Antimicrobial susceptibility testing of *S. Adelaide* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Adelaide Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																											
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	1	0																					1				
Amphenicols - Florfenicol	16	1	0																			1						
Tetracyclines - Tetracycline	8	1	0																	1								
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																						
Quinolones - Nalidixic acid	16	1	0																			1						
Trimethoprim	2	1	0													1												
Aminoglycosides - Streptomycin	32	1	0																					1				
Aminoglycosides - Gentamicin	2	1	0											1														
Aminoglycosides - Kanamycin	4	1	0																			1						
Penicillins - Ampicillin	4	1	1																									
Cephalosporins - Cefotaxim	0.5	1	0									1																
Cephalosporins - Ceftazidim	2	1	0													1												
Polymyxins - Colistin	2	1	0																	1								
Sulphonamides - Sulfamethoxazol	256	1	0																									

Table Antimicrobial susceptibility testing of *S. Adelaide* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Adelaide	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin			1															0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Braenderup* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Braenderup	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																					1			
Amphenicols - Florfenicol	16	1	0																		1						
Tetracyclines - Tetracycline	8	1	0																	1							
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																					
Quinolones - Nalidixic acid	16	1	0																		1						
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																					1			
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	4	1	0																		1						
Penicillins - Ampicillin	4	1	0															1									
Cephalosporins - Cefotaxim	0.5	1	0							1																	
Cephalosporins - Ceftazidim	2	1	0											1													
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of *S. Braenderup* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Braenderup	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT 193 in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

DT 193	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	1	0																						1			
Amphenicols - Florfenicol	16	1	0																			1						
Tetracyclines - Tetracycline	8	1	0																	1								
Fluoroquinolones - Ciprofloxacin	0.06	1	0					1																				
Quinolones - Nalidixic acid	16	1	0																			1						
Trimethoprim	2	1	0													1												
Aminoglycosides - Streptomycin	32	1	0																						1			
Aminoglycosides - Gentamicin	2	1	0											1														
Aminoglycosides - Kanamycin	4	1	0																			1						
Penicillins - Ampicillin	4	1	1																									
Cephalosporins - Cefotaxim	0.5	1	0							1																		
Cephalosporins - Ceftazidim	2	1	0											1														
Polymyxins - Colistin	2	1	0																	1								
Sulphonamides - Sulfamethoxazol	256	1	0																									

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT 193 in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

DT 193	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin			1															0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1																8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 21 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 21	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	3	0																			3					
Amphenicols - Florfenicol	16	3	0																			3					
Tetracyclines - Tetracycline	8	3	0																	3							
Fluoroquinolones - Ciprofloxacin	0.06	3	0					3																			
Quinolones - Nalidixic acid	16	3	0																			3					
Trimethoprim	2	3	0													3											
Aminoglycosides - Streptomycin	32	3	0																	2		1					
Aminoglycosides - Gentamicin	2	3	0											3													
Aminoglycosides - Kanamycin	4	3	0																			3					
Penicillins - Ampicillin	4	3	0																	3							
Cephalosporins - Cefotaxim	0.5	3	0							1		2															
Cephalosporins - Ceftazidim	2	3	0											3													
Polymyxins - Colistin	2	3	3																			2	1				
Sulphonamides - Sulfamethoxazol	256	3	0																								

Table Antimicrobial susceptibility testing of S. Enteritidis - PT 21 in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 21	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1		2														8	1024

Table Antimicrobial susceptibility testing of *S. Heidelberg* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Heidelberg	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	2	0																			1		1				
Amphenicols - Florfenicol	16	2	0																			2						
Tetracyclines - Tetracycline	8	2	0																	2								
Fluoroquinolones - Ciprofloxacin	0.06	2	0			1		1																				
Quinolones - Nalidixic acid	16	2	0																			2						
Trimethoprim	2	2	0													2												
Aminoglycosides - Streptomycin	32	2	0																					2				
Aminoglycosides - Gentamicin	2	2	0											2														
Aminoglycosides - Kanamycin	4	2	0																			2						
Penicillins - Ampicillin	4	2	0															2										
Cephalosporins - Cefotaxim	0.5	2	0							2																		
Cephalosporins - Ceftazidim	2	2	0											2														
Polymyxins - Colistin	2	2	0																	2								
Sulphonamides - Sulfamethoxazol	256	2	0																									

Table Antimicrobial susceptibility testing of *S. Heidelberg* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Heidelberg	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		2																8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 8 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 8	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	11	0																			9		2			
Amphenicols - Florfenicol	16	11	0																			11					
Tetracyclines - Tetracycline	8	11	0															1		10							
Fluoroquinolones - Ciprofloxacin	0.06	11	0			3		8																			
Quinolones - Nalidixic acid	16	11	0																			10		1			
Trimethoprim	2	11	0													11											
Aminoglycosides - Streptomycin	32	11	0																	5		6					
Aminoglycosides - Gentamicin	2	11	0											9		2											
Aminoglycosides - Kanamycin	4	11	0																			11					
Penicillins - Ampicillin	4	11	0															3		8							
Cephalosporins - Cefotaxim	0.5	11	0							7		3		1													
Cephalosporins - Ceftazidim	2	11	0											10		1											
Polymyxins - Colistin	2	11	1																	10		1					
Sulphonamides - Sulfamethoxazol	256	11	0																								

Table Antimicrobial susceptibility testing of S. Enteritidis - PT 8 in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 8	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				11														8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis - PT 4 in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 4	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	13	0																			12		1			
Amphenicols - Florfenicol	16	13	0																			12		1			
Tetracyclines - Tetracycline	8	13	0															1		12							
Fluoroquinolones - Ciprofloxacin	0.06	13	0			7		6																			
Quinolones - Nalidixic acid	16	13	0																			13					
Trimethoprim	2	13	0													12		1									
Aminoglycosides - Streptomycin	32	13	0																	10		3					
Aminoglycosides - Gentamicin	2	13	0											12		1											
Aminoglycosides - Kanamycin	4	13	0																			13					
Penicillins - Ampicillin	4	13	0															8		5							
Cephalosporins - Cefotaxim	0.5	13	0							11		2															
Cephalosporins - Ceftazidim	2	13	0											13													
Polymyxins - Colistin	2	13	5																	8		4	1				
Sulphonamides - Sulfamethoxazol	256	13	0																								

Table Antimicrobial susceptibility testing of S. Enteritidis - PT 4 in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 4	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		3		10														8	1024

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT RDNC in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

DT RDNC	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	5	0																						5		
Amphenicols - Florfenicol	16	5	0																			5					
Tetracyclines - Tetracycline	8	5	0																	5							
Fluoroquinolones - Ciprofloxacin	0.06	5	0					5																			
Quinolones - Nalidixic acid	16	5	0																			5					
Trimethoprim	2	5	0													5											
Aminoglycosides - Streptomycin	32	5	0																			1		3		1	
Aminoglycosides - Gentamicin	2	5	0											5													
Aminoglycosides - Kanamycin	4	5	0											2								5					
Penicillins - Ampicillin	4	5	0															1		3		1					
Cephalosporins - Cefotaxim	0.5	5	0							1		2		2													
Cephalosporins - Ceftazidim	2	5	0											2		3											
Polymyxins - Colistin	2	5	0																	5							
Sulphonamides - Sulfamethoxazol	256	5	0																								

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT RDNC in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

DT RDNC	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				5														8	1024

Table Antimicrobial susceptibility testing of *S. Typhimurium* - U 311 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

U 311	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																			1					
Amphenicols - Florfenicol	16	1	0																			1					
Tetracyclines - Tetracycline	8	1	1																								
Fluoroquinolones - Ciprofloxacin	0.06	1	0					1																			
Quinolones - Nalidixic acid	16	1	0																			1					
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	1																								
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	4	1	0																			1					
Penicillins - Ampicillin	4	1	1																								
Cephalosporins - Cefotaxim	0.5	1	0									1															
Cephalosporins - Ceftazidim	2	1	0											1													
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	1																								

Table Antimicrobial susceptibility testing of *S. Typhimurium* - U 311 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

U 311	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline					1													1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin							1											2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin			1															0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol													1					8	1024

Table Antimicrobial susceptibility testing of *S. Senftenberg* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Senftenberg	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																					1			
Amphenicols - Florfenicol	16	1	0																		1						
Tetracyclines - Tetracycline	8	1	0																	1							
Fluoroquinolones - Ciprofloxacin	0.06	1	0					1																			
Quinolones - Nalidixic acid	16	1	0																		1						
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																							1	
Aminoglycosides - Gentamicin	2	1	0													1											
Aminoglycosides - Kanamycin	4	1	0																		1						
Penicillins - Ampicillin	4	1	0															1									
Cephalosporins - Cefotaxim	0.5	1	0									1															
Cephalosporins - Ceftazidim	2	1	0													1											
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of *S. Senftenberg* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Senftenberg	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Stanleyville* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Stanleyville	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																					1			
Amphenicols - Florfenicol	16	1	0																		1						
Tetracyclines - Tetracycline	8	1	0																	1							
Fluoroquinolones - Ciprofloxacin	0.06	1	0					1																			
Quinolones - Nalidixic acid	16	1	0																			1					
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																					1			
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	4	1	0																			1					
Penicillins - Ampicillin	4	1	0															1									
Cephalosporins - Cefotaxim	0.5	1	0							1																	
Cephalosporins - Ceftazidim	2	1	0											1													
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of S. Stanleyville in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Stanleyville	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Senftenberg* in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Senftenberg	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																					1			
Amphenicols - Florfenicol	16	1	0																		1						
Tetracyclines - Tetracycline	8	1	0																	1							
Fluoroquinolones - Ciprofloxacin	0.06	1	0					1																			
Quinolones - Nalidixic acid	16	1	0																			1					
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																							1	
Aminoglycosides - Gentamicin	2	1	0													1											
Aminoglycosides - Kanamycin	4	1	0																			1					
Penicillins - Ampicillin	4	1	0															1									
Cephalosporins - Cefotaxim	0.5	1	0									1															
Cephalosporins - Ceftazidim	2	1	0													1											
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of S. Senftenberg in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Senftenberg	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1																8	1024

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT 104H in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

DT 104H	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																					1			
Amphenicols - Florfenicol	16	1	0																		1						
Tetracyclines - Tetracycline	8	1	0																	1							
Fluoroquinolones - Ciprofloxacin	0.06	1	0					1																			
Quinolones - Nalidixic acid	16	1	0																			1					
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																					1			
Aminoglycosides - Gentamicin	2	1	0													1											
Aminoglycosides - Kanamycin	4	1	0																			1					
Penicillins - Ampicillin	4	1	0															1									
Cephalosporins - Cefotaxim	0.5	1	0							1																	
Cephalosporins - Ceftazidim	2	1	0											1													
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT 104H in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

DT 104H	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Thompson* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Thompson	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	3	0																					3			
Amphenicols - Florfenicol	16	3	0																		3						
Tetracyclines - Tetracycline	8	3	0																	3							
Fluoroquinolones - Ciprofloxacin	0.06	3	0					3																			
Quinolones - Nalidixic acid	16	3	0																			3					
Trimethoprim	2	3	0													3											
Aminoglycosides - Streptomycin	32	3	0																					3			
Aminoglycosides - Gentamicin	2	3	0											2		1											
Aminoglycosides - Kanamycin	4	3	0																			3					
Penicillins - Ampicillin	4	3	0															3									
Cephalosporins - Cefotaxim	0.5	3	0							2		1															
Cephalosporins - Ceftazidim	2	3	0											3													
Polymyxins - Colistin	2	3	0																	3							
Sulphonamides - Sulfamethoxazol	256	3	0																								

Table Antimicrobial susceptibility testing of *S. Thompson* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Thompson	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				3														8	1024

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT 3 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

DT 3	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	1	0																			1						
Amphenicols - Florfenicol	16	1	0																			1						
Tetracyclines - Tetracycline	8	1	0																	1								
Fluoroquinolones - Ciprofloxacin	0.06	1	0					1																				
Quinolones - Nalidixic acid	16	1	0																			1						
Trimethoprim	2	1	0													1												
Aminoglycosides - Streptomycin	32	1	0																					1				
Aminoglycosides - Gentamicin	2	1	0													1												
Aminoglycosides - Kanamycin	4	1	0																			1						
Penicillins - Ampicillin	4	1	0																	1								
Cephalosporins - Cefotaxim	0.5	1	0							1																		
Cephalosporins - Ceftazidim	2	1	0											1														
Polymyxins - Colistin	2	1	0																	1								
Sulphonamides - Sulfamethoxazol	256	1	0																									

Table Antimicrobial susceptibility testing of S. Typhimurium - DT 3 in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

DT 3	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of S. Montevideo in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Montevideo	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	2	0																			1		1			
Amphenicols - Florfenicol	16	2	0																			2					
Tetracyclines - Tetracycline	8	2	0																	2							
Fluoroquinolones - Ciprofloxacin	0.06	2	0					2																			
Quinolones - Nalidixic acid	16	2	0																			2					
Trimethoprim	2	2	0													2											
Aminoglycosides - Streptomycin	32	2	0																					2			
Aminoglycosides - Gentamicin	2	2	0											2													
Aminoglycosides - Kanamycin	4	2	0																			2					
Penicillins - Ampicillin	4	2	0															1		1							
Cephalosporins - Cefotaxim	0.5	2	0							2																	
Cephalosporins - Ceftazidim	2	2	0											1		1											
Polymyxins - Colistin	2	2	0																	2							
Sulphonamides - Sulfamethoxazol	256	2	0																								

Table Antimicrobial susceptibility testing of *S. Montevideo* in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Montevideo	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				2														8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 6 in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 6	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																			1					
Amphenicols - Florfenicol	16	1	0																			1					
Tetracyclines - Tetracycline	8	1	0																	1							
Fluoroquinolones - Ciprofloxacin	0.06	1	0					1																			
Quinolones - Nalidixic acid	16	1	0																			1					
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																	1							
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	4	1	0																			1					
Penicillins - Ampicillin	4	1	0																	1							
Cephalosporins - Cefotaxim	0.5	1	0									1															
Cephalosporins - Ceftazidim	2	1	0											1													
Polymyxins - Colistin	2	1	1																			1					
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 6 in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 6	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1																8	1024

Table Antimicrobial susceptibility testing of *S. Infantis* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Infantis	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	22	0																			1		12		9	
Amphenicols - Florfenicol	16	22	0																			8		5		9	
Tetracyclines - Tetracycline	8	22	19																	3							
Fluoroquinolones - Ciprofloxacin	0.06	22	19					2		1				2		11		6									
Quinolones - Nalidixic acid	16	22	19																			3					
Trimethoprim	2	22	0													22											
Aminoglycosides - Streptomycin	32	22	3																			1		2		8	
Aminoglycosides - Gentamicin	2	22	0											21		1											
Aminoglycosides - Kanamycin	4	22	0																			22					
Penicillins - Ampicillin	4	22	1															3		9		9		1			
Cephalosporins - Cefotaxim	0.5	22	0									6		14		2											
Cephalosporins - Ceftazidim	2	22	0											1		11		10									
Polymyxins - Colistin	2	22	1																	21		1					
Sulphonamides - Sulfamethoxazol	256	22	19																								

Table Antimicrobial susceptibility testing of *S. Infantis* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Infantis	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline				2	17													1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid					19													4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin		8		3														2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1		2									19					8	1024

Table Antimicrobial susceptibility testing of *S. Infantis* in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Infantis	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	2	0																			1				1	
Amphenicols - Florfenicol	16	2	0																			1		1			
Tetracyclines - Tetracycline	8	2	2																								
Fluoroquinolones - Ciprofloxacin	0.06	2	2											1				1									
Quinolones - Nalidixic acid	16	2	2																								
Trimethoprim	2	2	0													2											
Aminoglycosides - Streptomycin	32	2	0																								
Aminoglycosides - Gentamicin	2	2	0											2													
Aminoglycosides - Kanamycin	4	2	0																			2					
Penicillins - Ampicillin	4	2	0															1		1							
Cephalosporins - Cefotaxim	0.5	2	0							1						1											
Cephalosporins - Ceftazidim	2	2	0											1				1									
Polymyxins - Colistin	2	2	0																	2							
Sulphonamides - Sulfamethoxazol	256	2	2																								

Table Antimicrobial susceptibility testing of *S. Infantis* in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Infantis	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline				1	1													1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid					2													4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin		2																2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol													2					8	1024

Table Antimicrobial susceptibility testing of S. Mbandaka in Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Mbandaka	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	2	0																						2		
Amphenicols - Florfenicol	16	2	0																			1			1		
Tetracyclines - Tetracycline	8	2	0																	2							
Fluoroquinolones - Ciprofloxacin	0.06	2	0			2																					
Quinolones - Nalidixic acid	16	2	0																			2					
Trimethoprim	2	2	0													2											
Aminoglycosides - Streptomycin	32	2	0																						2		
Aminoglycosides - Gentamicin	2	2	0													2											
Aminoglycosides - Kanamycin	4	2	0																			2					
Penicillins - Ampicillin	4	2	0															2									
Cephalosporins - Cefotaxim	0.5	2	0									1		1													
Cephalosporins - Ceftazidim	2	2	0													2											
Polymyxins - Colistin	2	2	0																	2							
Sulphonamides - Sulfamethoxazol	256	2	0																								

Table Antimicrobial susceptibility testing of *S. Mbandaka* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Mbandaka	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																			
	Isolates out of a monitoring program (yes/no)																			
	Number of isolates available in the laboratory																			
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																			2	64
Amphenicols - Florfenicol																			2	64
Tetracyclines - Tetracycline																			1	64
Fluoroquinolones - Ciprofloxacin																			0.008	8
Quinolones - Nalidixic acid																			4	64
Trimethoprim																			0.5	32
Aminoglycosides - Streptomycin																			2	128
Aminoglycosides - Gentamicin																			0.25	32
Aminoglycosides - Kanamycin																			4	128
Penicillins - Ampicillin																			0.5	32
Cephalosporins - Cefotaxim																			0.06	4
Cephalosporins - Ceftazidim																			0.25	16
Polymyxins - Colistin																			2	4
Sulphonamides - Sulfamethoxazol				1		1													8	1024

Table Antimicrobial susceptibility testing of *S. Kedougou* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Kedougou Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory				Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																								
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	16	3	0																			1		2				
Amphenicols - Florfenicol	16	3	0																			2		1				
Tetracyclines - Tetracycline	8	3	0																	3								
Fluoroquinolones - Ciprofloxacin	0.06	3	0			3																						
Quinolones - Nalidixic acid	16	3	0																			3						
Trimethoprim	2	3	0													3												
Aminoglycosides - Streptomycin	32	3	0																					3				
Aminoglycosides - Gentamicin	2	3	0											3														
Aminoglycosides - Kanamycin	4	3	0																			3						
Penicillins - Ampicillin	4	3	0															3										
Cephalosporins - Cefotaxim	0.5	3	0							2		1																
Cephalosporins - Ceftazidim	2	3	0											3														
Polymyxins - Colistin	2	3	0																	3								
Sulphonamides - Sulfamethoxazol	256	3	0																									

Table Antimicrobial susceptibility testing of *S. Kedougou* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Kedougou	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1		2														8	1024

Table Antimicrobial susceptibility testing of *S. Kentucky* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Kentucky	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	4	0																			4					
Amphenicols - Florfenicol	16	4	0																			4					
Tetracyclines - Tetracycline	8	4	0																	4							
Fluoroquinolones - Ciprofloxacin	0.06	4	0			4																					
Quinolones - Nalidixic acid	16	4	0																			4					
Trimethoprim	2	4	0													4											
Aminoglycosides - Streptomycin	32	4	0																			1		2		1	
Aminoglycosides - Gentamicin	2	4	0											3		1											
Aminoglycosides - Kanamycin	4	4	0																			4					
Penicillins - Ampicillin	4	4	0															3		1							
Cephalosporins - Cefotaxim	0.5	4	0							1		3															
Cephalosporins - Ceftazidim	2	4	0													2		2									
Polymyxins - Colistin	2	4	0																	4							
Sulphonamides - Sulfamethoxazol	256	4	0																								

Table Antimicrobial susceptibility testing of *S. Kentucky* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Kentucky	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1		2		1												8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 6 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 6	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	3	0																			3					
Amphenicols - Florfenicol	16	3	0																			3					
Tetracyclines - Tetracycline	8	3	0																	3							
Fluoroquinolones - Ciprofloxacin	0.06	3	0			2		1																			
Quinolones - Nalidixic acid	16	3	0																			3					
Trimethoprim	2	3	0													3											
Aminoglycosides - Streptomycin	32	3	0																	3							
Aminoglycosides - Gentamicin	2	3	0											3													
Aminoglycosides - Kanamycin	4	3	0																			3					
Penicillins - Ampicillin	4	3	0															1		2							
Cephalosporins - Cefotaxim	0.5	3	0							3																	
Cephalosporins - Ceftazidim	2	3	0											3													
Polymyxins - Colistin	2	3	1																	2		1					
Sulphonamides - Sulfamethoxazol	256	3	0																								

Table Antimicrobial susceptibility testing of S. Enteritidis - PT 6 in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 6	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		3																8	1024

Table Antimicrobial susceptibility testing of *S. Saintpaul* in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Saintpaul	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	11	0																			5		6			
Amphenicols - Florfenicol	16	11	0																			10		1			
Tetracyclines - Tetracycline	8	11	8																	3							
Fluoroquinolones - Ciprofloxacin	0.06	11	9					2				2		7													
Quinolones - Nalidixic acid	16	11	9																			2					
Trimethoprim	2	11	8													3											
Aminoglycosides - Streptomycin	32	11	7																					3			
Aminoglycosides - Gentamicin	2	11	0											9		2											
Aminoglycosides - Kanamycin	4	11	0																			11					
Penicillins - Ampicillin	4	11	8															3									
Cephalosporins - Cefotaxim	0.5	11	0							9		2															
Cephalosporins - Ceftazidim	2	11	0											9		2											
Polymyxins - Colistin	2	11	0																	11							
Sulphonamides - Sulfamethoxazol	256	11	8																								

Table Antimicrobial susceptibility testing of *S. Saintpaul* in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Saintpaul	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline				1	7													1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid					9													4	64
Trimethoprim			8															0.5	32
Aminoglycosides - Streptomycin		1				4	3											2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin			8															0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				3									8					8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 19 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 19	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																													
	Isolates out of a monitoring program (yes/no)																													
		Number of isolates available in the laboratory																												
			Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Antimicrobials:	16	1	0																				1							
Amphenicols - Chloramphenicol	16	1	0																				1							
Amphenicols - Florfenicol	8	1	0																		1									
Tetracyclines - Tetracycline	0.06	1	0					1																						
Fluoroquinolones - Ciprofloxacin	16	1	0																				1							
Quinolones - Nalidixic acid	2	1	0													1														
Trimethoprim	32	1	0																		1									
Aminoglycosides - Streptomycin	2	1	0											1																
Aminoglycosides - Gentamicin	4	1	0																				1							
Aminoglycosides - Kanamycin	4	1	0																1											
Penicillins - Ampicillin	0.5	1	0							1									1											
Cephalosporins - Cefotaxim	2	1	0											1																
Cephalosporins - Ceftazidim	2	1	0																		1									
Polymyxins - Colistin	256	1	0																											
Sulphonamides - Sulfamethoxazol																														

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 19 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 19	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT RDNC in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT RDNC	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	1	0																			1						
Amphenicols - Florfenicol	16	1	0																			1						
Tetracyclines - Tetracycline	8	1	1																									
Fluoroquinolones - Ciprofloxacin	0.06	1	0					1																				
Quinolones - Nalidixic acid	16	1	0																			1						
Trimethoprim	2	1	0													1												
Aminoglycosides - Streptomycin	32	1	0																	1								
Aminoglycosides - Gentamicin	2	1	0											1														
Aminoglycosides - Kanamycin	4	1	0																			1						
Penicillins - Ampicillin	4	1	0																	1								
Cephalosporins - Cefotaxim	0.5	1	0									1																
Cephalosporins - Ceftazidim	2	1	0											1														
Polymyxins - Colistin	2	1	1																			1						
Sulphonamides - Sulfamethoxazol	256	1	0																									

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT RDNC in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT RDNC	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline					1													1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 7 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 7	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																												
	Isolates out of a monitoring program (yes/no)																												
		Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value		N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	16	1	0																				1						
Amphenicols - Florfenicol	16	1	0																				1						
Tetracyclines - Tetracycline	8	1	0																1										
Fluoroquinolones - Ciprofloxacin	0.06	1	0						1																				
Quinolones - Nalidixic acid	16	1	0																				1						
Trimethoprim	2	1	0														1												
Aminoglycosides - Streptomycin	32	1	0																				1						
Aminoglycosides - Gentamicin	2	1	0														1												
Aminoglycosides - Kanamycin	4	1	0																				1						
Penicillins - Ampicillin	4	1	0																			1							
Cephalosporins - Cefotaxim	0.5	1	0										1																
Cephalosporins - Ceftazidim	2	1	0												1														
Polymyxins - Colistin	2	1	0																			1							
Sulphonamides - Sulfamethoxazol	256	1	0																										

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 7 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 7	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1																8	1024

Table Antimicrobial susceptibility testing of S. 4,12:-:1,7 in Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. 4,12:-:1,7 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																											
	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	16	1	0																					1				
Amphenicols - Florfenicol	16	1	0																		1							
Tetracyclines - Tetracycline	8	1	0																1									
Fluoroquinolones - Ciprofloxacin	0.06	1	0					1																				
Quinolones - Nalidixic acid	16	1	0																		1							
Trimethoprim	2	1	0												1													
Aminoglycosides - Streptomycin	32	1	0																					1				
Aminoglycosides - Gentamicin	2	1	0												1													
Aminoglycosides - Kanamycin	4	1	0																		1							
Penicillins - Ampicillin	4	1	0														1											
Cephalosporins - Cefotaxim	0.5	1	0						1																			
Cephalosporins - Ceftazidim	2	1	0										1															
Polymyxins - Colistin	2	1	0																1									
Sulphonamides - Sulfamethoxazol	256	1	0																									

Table Antimicrobial susceptibility testing of S. 4,12:-:1,7 in Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. 4,12:-:1,7 Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Regent* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Regent	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																					1			
Amphenicols - Florfenicol	16	1	0																		1						
Tetracyclines - Tetracycline	8	1	0																	1							
Fluoroquinolones - Ciprofloxacin	0.06	1	1											1													
Quinolones - Nalidixic acid	16	1	1																								
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																					1			
Aminoglycosides - Gentamicin	2	1	0													1											
Aminoglycosides - Kanamycin	4	1	0																		1						
Penicillins - Ampicillin	4	1	1																								
Cephalosporins - Cefotaxim	0.5	1	0									1															
Cephalosporins - Ceftazidim	2	1	0													1											
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of S. Regent in Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Regent	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid					1													4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin			1															0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Livingstone* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Livingstone	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	1	0																			1					
Amphenicols - Florfenicol	16	1	0																			1					
Tetracyclines - Tetracycline	8	1	0																	1							
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																					
Quinolones - Nalidixic acid	16	1	0																			1					
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																					1			
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	4	1	0																			1					
Penicillins - Ampicillin	4	1	0															1									
Cephalosporins - Cefotaxim	0.5	1	0							1																	
Cephalosporins - Ceftazidim	2	1	0											1													
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of S. Livingstone in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Livingstone	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Kentucky* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Kentucky	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																			1					
Amphenicols - Florfenicol	16	1	0																			1					
Tetracyclines - Tetracycline	8	1	0																	1							
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																					
Quinolones - Nalidixic acid	16	1	0																			1					
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																					1			
Aminoglycosides - Gentamicin	2	1	0													1											
Aminoglycosides - Kanamycin	4	1	0																			1					
Penicillins - Ampicillin	4	1	0															1									
Cephalosporins - Cefotaxim	0.5	1	0									1															
Cephalosporins - Ceftazidim	2	1	0													1											
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of *S. Kentucky* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Kentucky Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1																8	1024

Table Antimicrobial susceptibility testing of *S. Panama* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Panama Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory Antimicrobials:	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																											
	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	16	1	0																					1				
Amphenicols - Florfenicol	16	1	0																					1				
Tetracyclines - Tetracycline	8	1	0																1									
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																						
Quinolones - Nalidixic acid	16	1	0																		1							
Trimethoprim	2	1	0												1													
Aminoglycosides - Streptomycin	32	1	0																					1				
Aminoglycosides - Gentamicin	2	1	0												1													
Aminoglycosides - Kanamycin	4	1	0																		1							
Penicillins - Ampicillin	4	1	0														1											
Cephalosporins - Cefotaxim	0.5	1	0								1																	
Cephalosporins - Ceftazidim	2	1	0												1													
Polymyxins - Colistin	2	1	0																1									
Sulphonamides - Sulfamethoxazol	256	1	0																									

Table Antimicrobial susceptibility testing of *S. Panama* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Panama Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol						1												8	1024

Table Antimicrobial susceptibility testing of *S. IIIb* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. IIIb	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																	1							
Amphenicols - Florfenicol	16	1	0																	1							
Tetracyclines - Tetracycline	8	1	0															1									
Fluoroquinolones - Ciprofloxacin	0.06	1	0	1																							
Quinolones - Nalidixic acid	16	1	0																			1					
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																							1	
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	4	1	0																			1					
Penicillins - Ampicillin	4	1	0													1											
Cephalosporins - Cefotaxim	0.5	1	0							1																	
Cephalosporins - Ceftazidim	2	1	0											1													
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of S. IIIb in Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. IIIb	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Indiana* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Indiana	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	1	0																			1						
Amphenicols - Florfenicol	16	1	0																			1						
Tetracyclines - Tetracycline	8	1	1																									
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																						
Quinolones - Nalidixic acid	16	1	0																			1						
Trimethoprim	2	1	1																									
Aminoglycosides - Streptomycin	32	1	1																									
Aminoglycosides - Gentamicin	2	1	0													1												
Aminoglycosides - Kanamycin	4	1	0																			1						
Penicillins - Ampicillin	4	1	1																									
Cephalosporins - Cefotaxim	0.5	1	0							1																		
Cephalosporins - Ceftazidim	2	1	0											1														
Polymyxins - Colistin	2	1	0																	1								
Sulphonamides - Sulfamethoxazol	256	1	1																									

Table Antimicrobial susceptibility testing of *S. Indiana* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Indiana	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline				1														1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim			1															0.5	32
Aminoglycosides - Streptomycin							1											2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin			1															0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol													1					8	1024

Table Antimicrobial susceptibility testing of *S. Infantis* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Infantis	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	6	0																			1		5			
Amphenicols - Florfenicol	16	6	0																			2		4			
Tetracyclines - Tetracycline	8	6	0																	6							
Fluoroquinolones - Ciprofloxacin	0.06	6	1			1		4						1													
Quinolones - Nalidixic acid	16	6	1																			5					
Trimethoprim	2	6	0													6											
Aminoglycosides - Streptomycin	32	6	0																					5		1	
Aminoglycosides - Gentamicin	2	6	0											5		1											
Aminoglycosides - Kanamycin	4	6	0																			6					
Penicillins - Ampicillin	4	6	0															1		5							
Cephalosporins - Cefotaxim	0.5	6	0									6															
Cephalosporins - Ceftazidim	2	6	0													6											
Polymyxins - Colistin	2	6	0																	6							
Sulphonamides - Sulfamethoxazol	256	6	0																					1		1	

Table Antimicrobial susceptibility testing of *S. Infantis* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Infantis	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid					1													4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				4														8	1024

Table Antimicrobial susceptibility testing of *S. Tennessee* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Tennessee Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	3	0																						3		
Amphenicols - Florfenicol	16	3	0																			3					
Tetracyclines - Tetracycline	8	3	0																	3							
Fluoroquinolones - Ciprofloxacin	0.06	3	0			2		1																			
Quinolones - Nalidixic acid	16	3	0																			3					
Trimethoprim	2	3	0													3											
Aminoglycosides - Streptomycin	32	3	0																			1		1		1	
Aminoglycosides - Gentamicin	2	3	0											1		2											
Aminoglycosides - Kanamycin	4	3	0																			3					
Penicillins - Ampicillin	4	3	0															3									
Cephalosporins - Cefotaxim	0.5	3	0									3															
Cephalosporins - Ceftazidim	2	3	0											1		2											
Polymyxins - Colistin	2	3	0																	3							
Sulphonamides - Sulfamethoxazol	256	3	0																								

Table Antimicrobial susceptibility testing of S. Tennessee in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Tennessee	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				3														8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium - DT 104H in Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

DT 104H Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory			Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																											
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16				
Amphenicols - Chloramphenicol	16	1	0																					1						
Amphenicols - Florfenicol	16	1	0																			1								
Tetracyclines - Tetracycline	8	1	0																	1										
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																								
Quinolones - Nalidixic acid	16	1	0																			1								
Trimethoprim	2	1	0													1														
Aminoglycosides - Streptomycin	32	1	0																					1						
Aminoglycosides - Gentamicin	2	1	0											1																
Aminoglycosides - Kanamycin	4	1	0																			1								
Penicillins - Ampicillin	4	1	0																	1										
Cephalosporins - Cefotaxim	0.5	1	0							1																				
Cephalosporins - Ceftazidim	2	1	0											1																
Polymyxins - Colistin	2	1	0																	1										
Sulphonamides - Sulfamethoxazol	256	1	0																											

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT 104H in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

DT 104H	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Veneziana* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Veneziana Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory				Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																									
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16			
Amphenicols - Chloramphenicol	16	1	0																			1							
Amphenicols - Florfenicol	16	1	0																			1							
Tetracyclines - Tetracycline	8	1	0															1											
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																							
Quinolones - Nalidixic acid	16	1	0																			1							
Trimethoprim	2	1	0													1													
Aminoglycosides - Streptomycin	32	1	0																					1					
Aminoglycosides - Gentamicin	2	1	0													1													
Aminoglycosides - Kanamycin	4	1	0																			1							
Penicillins - Ampicillin	4	1	0															1											
Cephalosporins - Cefotaxim	0.5	1	0							1																			
Cephalosporins - Ceftazidim	2	1	0											1															
Polymyxins - Colistin	2	1	0																	1									
Sulphonamides - Sulfamethoxazol	256	1	0																										

Table Antimicrobial susceptibility testing of *S. Veneziana* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Veneziana	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1																8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 4 in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 4	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	16	1	0																			1						
Amphenicols - Florfenicol	16	1	0																			1						
Tetracyclines - Tetracycline	8	1	0																	1								
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																						
Quinolones - Nalidixic acid	16	1	0																			1						
Trimethoprim	2	1	0													1												
Aminoglycosides - Streptomycin	32	1	0																	1								
Aminoglycosides - Gentamicin	2	1	0											1														
Aminoglycosides - Kanamycin	4	1	0																			1						
Penicillins - Ampicillin	4	1	0															1										
Cephalosporins - Cefotaxim	0.5	1	0							1																		
Cephalosporins - Ceftazidim	2	1	0											1														
Polymyxins - Colistin	2	1	1																				1					
Sulphonamides - Sulfamethoxazol	256	1	0																									

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 4 in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 4	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1																8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 13a in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 13a	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																												
	Isolates out of a monitoring program (yes/no)																												
		Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value		N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	16	1	0																						1				
Amphenicols - Florfenicol	16	1	0																			1							
Tetracyclines - Tetracycline	8	1	0																		1								
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																							
Quinolones - Nalidixic acid	16	1	0																				1						
Trimethoprim	2	1	0													1													
Aminoglycosides - Streptomycin	32	1	0																		1								
Aminoglycosides - Gentamicin	2	1	0												1														
Aminoglycosides - Kanamycin	4	1	0																				1						
Penicillins - Ampicillin	4	1	0																1										
Cephalosporins - Cefotaxim	0.5	1	0							1																			
Cephalosporins - Ceftazidim	2	1	0												1														
Polymyxins - Colistin	2	1	0																		1								
Sulphonamides - Sulfamethoxazol	256	1	0																										

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 13a in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 13a	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1																8	1024

Table Antimicrobial susceptibility testing of *S. Abony* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Abony	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	2	0																			1		1			
Amphenicols - Florfenicol	16	2	0																			2					
Tetracyclines - Tetracycline	8	2	0															1		1							
Fluoroquinolones - Ciprofloxacin	0.06	2	0			1		1																			
Quinolones - Nalidixic acid	16	2	0																			2					
Trimethoprim	2	2	0													2											
Aminoglycosides - Streptomycin	32	2	0																							2	
Aminoglycosides - Gentamicin	2	2	0											2													
Aminoglycosides - Kanamycin	4	2	0																			2					
Penicillins - Ampicillin	4	2	0															2									
Cephalosporins - Cefotaxim	0.5	2	0									2															
Cephalosporins - Ceftazidim	2	2	0											2													
Polymyxins - Colistin	2	2	0																	2							
Sulphonamides - Sulfamethoxazol	256	2	0																								

Table Antimicrobial susceptibility testing of *S. Abony* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Abony	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1		1														8	1024

Table Antimicrobial susceptibility testing of *S. Montevideo* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Montevideo	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	2	0																					2			
Amphenicols - Florfenicol	16	2	0																		2						
Tetracyclines - Tetracycline	8	2	0																	2							
Fluoroquinolones - Ciprofloxacin	0.06	2	0					2																			
Quinolones - Nalidixic acid	16	2	0																		2						
Trimethoprim	2	2	0													2											
Aminoglycosides - Streptomycin	32	2	0																					2			
Aminoglycosides - Gentamicin	2	2	0													2											
Aminoglycosides - Kanamycin	4	2	0																		2						
Penicillins - Ampicillin	4	2	0															2									
Cephalosporins - Cefotaxim	0.5	2	0							2																	
Cephalosporins - Ceftazidim	2	2	0											2													
Polymyxins - Colistin	2	2	0																	2							
Sulphonamides - Sulfamethoxazol	256	2	0																								

Table Antimicrobial susceptibility testing of *S. Montevideo* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Montevideo	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				2														8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 14b in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 14b	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	2	0																			2					
Amphenicols - Florfenicol	16	2	0																			2					
Tetracyclines - Tetracycline	8	2	0																	2							
Fluoroquinolones - Ciprofloxacin	0.06	2	0					2																			
Quinolones - Nalidixic acid	16	2	0																			2					
Trimethoprim	2	2	0													2											
Aminoglycosides - Streptomycin	32	2	0																	1		1					
Aminoglycosides - Gentamicin	2	2	0											2													
Aminoglycosides - Kanamycin	4	2	0																			2					
Penicillins - Ampicillin	4	2	0																	2							
Cephalosporins - Cefotaxim	0.5	2	0									2															
Cephalosporins - Ceftazidim	2	2	0											2													
Polymyxins - Colistin	2	2	0																	2							
Sulphonamides - Sulfamethoxazol	256	2	0																								

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 14b in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 14b	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1		1														8	1024

Table Antimicrobial susceptibility testing of *S. London* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. London	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	1	0																			1					
Amphenicols - Florfenicol	16	1	0																			1					
Tetracyclines - Tetracycline	8	1	0															1									
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																					
Quinolones - Nalidixic acid	16	1	0																			1					
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																					1			
Aminoglycosides - Gentamicin	2	1	0													1											
Aminoglycosides - Kanamycin	4	1	0																			1					
Penicillins - Ampicillin	4	1	0															1									
Cephalosporins - Cefotaxim	0.5	1	0							1																	
Cephalosporins - Ceftazidim	2	1	0											1													
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of *S. London* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. London	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol						1												8	1024

Table Antimicrobial susceptibility testing of *S. Worthington* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Worthington	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	5	0																						5		
Amphenicols - Florfenicol	16	5	0																			1			4		
Tetracyclines - Tetracycline	8	5	0																		5						
Fluoroquinolones - Ciprofloxacin	0.06	5	0			3		2																			
Quinolones - Nalidixic acid	16	5	0																			4			1		
Trimethoprim	2	5	0													5											
Aminoglycosides - Streptomycin	32	5	0																						4		1
Aminoglycosides - Gentamicin	2	5	0											3		2											
Aminoglycosides - Kanamycin	4	5	0																			5					
Penicillins - Ampicillin	4	5	1															4									
Cephalosporins - Cefotaxim	0.5	5	0							3		2															
Cephalosporins - Ceftazidim	2	5	0											3		2											
Polymyxins - Colistin	2	5	0																		5						
Sulphonamides - Sulfamethoxazol	256	5	0																								3

Table Antimicrobial susceptibility testing of *S. Worthington* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Worthington	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin			1															0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		2																8	1024

Table Antimicrobial susceptibility testing of S. IIIb in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. IIIb	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	2	0																	1		1					
Amphenicols - Florfenicol	16	2	0																	1		1					
Tetracyclines - Tetracycline	8	2	0															2									
Fluoroquinolones - Ciprofloxacin	0.06	2	0	1		1																					
Quinolones - Nalidixic acid	16	2	0																			2					
Trimethoprim	2	2	0													2											
Aminoglycosides - Streptomycin	32	2	0																						1		1
Aminoglycosides - Gentamicin	2	2	0											2													
Aminoglycosides - Kanamycin	4	2	0																				2				
Penicillins - Ampicillin	4	2	0													1		1									
Cephalosporins - Cefotaxim	0.5	2	0							2																	
Cephalosporins - Ceftazidim	2	2	0											2													
Polymyxins - Colistin	2	2	0																		2						
Sulphonamides - Sulfamethoxazol	256	2	0																								

Table Antimicrobial susceptibility testing of S. IIIb in Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. IIIb	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1				1												8	1024

Table Antimicrobial susceptibility testing of S. 6,8:e,h:- in Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. 6,8:e,h:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	2	0																	1		1					
Amphenicols - Florfenicol	16	2	0																	1		1					
Tetracyclines - Tetracycline	8	2	0															1		1							
Fluoroquinolones - Ciprofloxacin	0.06	2	0			2																					
Quinolones - Nalidixic acid	16	2	0																			2					
Trimethoprim	2	2	0													2											
Aminoglycosides - Streptomycin	32	2	0																					2			
Aminoglycosides - Gentamicin	2	2	0											1		1											
Aminoglycosides - Kanamycin	4	2	0																			2					
Penicillins - Ampicillin	4	2	0															2									
Cephalosporins - Cefotaxim	0.5	2	0							2																	
Cephalosporins - Ceftazidim	2	2	0											2													
Polymyxins - Colistin	2	2	1																	1		1					
Sulphonamides - Sulfamethoxazol	256	2	0																							1	

Table Antimicrobial susceptibility testing of S. 6,8:e,h:- in Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. 6,8:e,h:- Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Antimicrobials:																			
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1																8	1024

Table Antimicrobial susceptibility testing of *S. Bredeney* in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Bredeney	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																			1					
Amphenicols - Florfenicol	16	1	0																			1					
Tetracyclines - Tetracycline	8	1	1																								
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																					
Quinolones - Nalidixic acid	16	1	0																			1					
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	1																								
Aminoglycosides - Gentamicin	2	1	0													1											
Aminoglycosides - Kanamycin	4	1	1																								
Penicillins - Ampicillin	4	1	0																		1						
Cephalosporins - Cefotaxim	0.5	1	0							1																	
Cephalosporins - Ceftazidim	2	1	0											1													
Polymyxins - Colistin	2	1	0																		1						
Sulphonamides - Sulfamethoxazol	256	1	1																								

Table Antimicrobial susceptibility testing of *S. Bredeney* in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Bredeney	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline					1													1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin				1														2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin							1											4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol													1					8	1024

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT 41 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

DT 41	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	1	0																					1			
Amphenicols - Florfenicol	16	1	0																		1						
Tetracyclines - Tetracycline	8	1	0																	1							
Fluoroquinolones - Ciprofloxacin	0.06	1	0					1																			
Quinolones - Nalidixic acid	16	1	0																			1					
Trimethoprim	2	1	0													1											
Aminoglycosides - Streptomycin	32	1	0																					1			
Aminoglycosides - Gentamicin	2	1	0											1													
Aminoglycosides - Kanamycin	4	1	0																			1					
Penicillins - Ampicillin	4	1	0																	1							
Cephalosporins - Cefotaxim	0.5	1	0									1															
Cephalosporins - Ceftazidim	2	1	0											1													
Polymyxins - Colistin	2	1	0																	1							
Sulphonamides - Sulfamethoxazol	256	1	0																								

Table Antimicrobial susceptibility testing of *S. Typhimurium* - DT 41 in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

DT 41	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol				1														8	1024

Table Antimicrobial susceptibility testing of *S. Braenderup* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Braenderup	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	5	0																			1		4			
Amphenicols - Florfenicol	16	5	0																			5					
Tetracyclines - Tetracycline	8	5	0																	5							
Fluoroquinolones - Ciprofloxacin	0.06	5	0					5																			
Quinolones - Nalidixic acid	16	5	0																			5					
Trimethoprim	2	5	0													5											
Aminoglycosides - Streptomycin	32	5	0																					5			
Aminoglycosides - Gentamicin	2	5	0											4		1											
Aminoglycosides - Kanamycin	4	5	0																			5					
Penicillins - Ampicillin	4	5	0															3		2							
Cephalosporins - Cefotaxim	0.5	5	0							5																	
Cephalosporins - Ceftazidim	2	5	0											5													
Polymyxins - Colistin	2	5	0																	5							
Sulphonamides - Sulfamethoxazol	256	5	0																								

Table Antimicrobial susceptibility testing of *S. Braenderup* in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Braenderup	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		1		4														8	1024

Table Antimicrobial susceptibility testing of *S. Paratyphi* B var. Java in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Paratyphi B var. Java	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	2	0																						2		
Amphenicols - Florfenicol	16	2	0																						2		
Tetracyclines - Tetracycline	8	2	2																								
Fluoroquinolones - Ciprofloxacin	0.06	2	2											2													
Quinolones - Nalidixic acid	16	2	2																								
Trimethoprim	2	2	2																								
Aminoglycosides - Streptomycin	32	2	2																								
Aminoglycosides - Gentamicin	2	2	0											2													
Aminoglycosides - Kanamycin	4	2	0																			2					
Penicillins - Ampicillin	4	2	2																								
Cephalosporins - Cefotaxim	0.5	2	2																				2				
Cephalosporins - Ceftazidim	2	2	2																								
Polymyxins - Colistin	2	2	0																		2						
Sulphonamides - Sulfamethoxazol	256	2	2																								

Table Antimicrobial susceptibility testing of *S. Paratyphi B* var. Java in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Paratyphi B var. Java	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline					2													1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid					2													4	64
Trimethoprim			2															0.5	32
Aminoglycosides - Streptomycin						2												2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin			2															0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim	2																	0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol													2					8	1024

Table Antimicrobial susceptibility testing of *S. Kottbus* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Kottbus	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	6	0																			6					
Amphenicols - Florfenicol	16	6	0																			6					
Tetracyclines - Tetracycline	8	6	0																	6							
Fluoroquinolones - Ciprofloxacin	0.06	6	3			3								3													
Quinolones - Nalidixic acid	16	6	3																			3					
Trimethoprim	2	6	0													6											
Aminoglycosides - Streptomycin	32	6	0																					5		1	
Aminoglycosides - Gentamicin	2	6	0											4		2											
Aminoglycosides - Kanamycin	4	6	0																			6					
Penicillins - Ampicillin	4	6	0															5		1							
Cephalosporins - Cefotaxim	0.5	6	0							4		2															
Cephalosporins - Ceftazidim	2	6	0											5		1											
Polymyxins - Colistin	2	6	0																	6							
Sulphonamides - Sulfamethoxazol	256	6	0																								

Table Antimicrobial susceptibility testing of *S. Kottbus* in *Gallus gallus* (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Kottbus Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid					3													4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		4		1		1												8	1024

Table Antimicrobial susceptibility testing of *S. Abony* in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

S. Abony	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	1	0																			1						
Amphenicols - Florfenicol	16	1	0																			1						
Tetracyclines - Tetracycline	8	1	0																	1								
Fluoroquinolones - Ciprofloxacin	0.06	1	0			1																						
Quinolones - Nalidixic acid	16	1	0																			1						
Trimethoprim	2	1	0													1												
Aminoglycosides - Streptomycin	32	1	0																							1		
Aminoglycosides - Gentamicin	2	1	0											1														
Aminoglycosides - Kanamycin	4	1	0																			1						
Penicillins - Ampicillin	4	1	0															1										
Cephalosporins - Cefotaxim	0.5	1	0									1																
Cephalosporins - Ceftazidim	2	1	0											1														
Polymyxins - Colistin	2	1	1																			1						
Sulphonamides - Sulfamethoxazol	256	1	0																							1		

Table Antimicrobial susceptibility testing of S. Abony in Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

S. Abony	Turkeys - meat production flocks - before slaughter - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol																		8	1024

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 1d in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

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

PT 1d	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	2	0																			2					
Amphenicols - Florfenicol	16	2	0																			2					
Tetracyclines - Tetracycline	8	2	0																	2							
Fluoroquinolones - Ciprofloxacin	0.06	2	0					2																			
Quinolones - Nalidixic acid	16	2	0																			2					
Trimethoprim	2	2	0													2											
Aminoglycosides - Streptomycin	32	2	0																	1		1					
Aminoglycosides - Gentamicin	2	2	0											2													
Aminoglycosides - Kanamycin	4	2	0																			2					
Penicillins - Ampicillin	4	2	0																	2							
Cephalosporins - Cefotaxim	0.5	2	0									2															
Cephalosporins - Ceftazidim	2	2	0											2													
Polymyxins - Colistin	2	2	0																	2							
Sulphonamides - Sulfamethoxazol	256	2	0																								

Table Antimicrobial susceptibility testing of *S. Enteritidis* - PT 1d in *Gallus gallus* (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census sampling - quantitative data [Dilution method]

PT 1d	Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling - census																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64
Amphenicols - Florfenicol																		2	64
Tetracyclines - Tetracycline																		1	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		4	64
Trimethoprim																		0.5	32
Aminoglycosides - Streptomycin																		2	128
Aminoglycosides - Gentamicin																		0.25	32
Aminoglycosides - Kanamycin																		4	128
Penicillins - Ampicillin																		0.5	32
Cephalosporins - Cefotaxim																		0.06	4
Cephalosporins - Ceftazidim																		0.25	16
Polymyxins - Colistin																		2	4
Sulphonamides - Sulfamethoxazol		2																8	1024

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	12
Tetracyclines	Tetracycline		8	11
Fluoroquinolones	Ciprofloxacin		0.064	15
Quinolones	Nalidixic acid		16	13
Trimethoprim	Trimethoprim		2	10
Sulphonamides	Sulfamethoxazol		256	12
Aminoglycosides	Streptomycin		16	11
	Gentamicin		2	12
	Kanamycin		4	13
Cephalosporins	Cefotaxim		0.5	14
Penicillins	Ampicillin		4	13
Polymyxins	Colistin		2	

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

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	12
Tetracyclines	Tetracycline		8	11
Fluoroquinolones	Ciprofloxacin		0.064	15
Quinolones	Nalidixic acid		16	13
Trimethoprim	Trimethoprim		2	10
Sulphonamides	Sulfamethoxazol		256	12
Aminoglycosides	Streptomycin		16	11
	Gentamicin		2	12
	Kanamycin		4	13
Cephalosporins	Cefotaxim		0.5	14
Penicillins	Ampicillin		4	13
Polymyxins	Colistin		2	

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

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	12
Tetracyclines	Tetracycline		8	11
Fluoroquinolones	Ciprofloxacin		0.064	15
Quinolones	Nalidixic acid		16	13
Trimethoprim	Trimethoprim		2	10
Sulphonamides	Sulfamethoxazol		256	12
Aminoglycosides	Streptomycin		16	11
	Gentamicin		2	12
	Kanamycin		4	13
Cephalosporins	Cefotaxim		0.5	14
Penicillins	Ampicillin		4	13
Polymyxins	Colistin		2	

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

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

Test Method Used		Standard methods used for testing		
Polymyxins	Colistin		Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
			2	

2.2 CAMPYLOBACTERIOSIS

2.2.1 General evaluation of the national situation

A. Thermophilic Campylobacter general evaluation

History of the disease and/or infection in the country

In 2006, the number of notified human campylobacteriosis cases exceeded for the first time the number of notified salmonellosis cases in Austria. Since then, the gap between the number of human campylobacter cases and salmonella cases has been widening.

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

In recent years, the number of notified cases of campylobacteriosis – with the exception of 2003 – steadily increased, reaching a new peak of 6,077 cases in 2007. The number of Campylobacter cases presented in this report reflects the number of laboratory confirmed cases $n = 4,405$.

The sources of infection are still unclear. The few published outbreaks in Austria were due to contaminated cow's raw milk or chicken meat. Pets may be considered another possible source.

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

Feeding stuff has no obvious relevance. Animals are diversely infected: broiler flocks around 50%, cattle approx. 25%. The actual source of infection is unknown in human cases, chicken meat may account for approx. 40% of human infections.

Recent actions taken to control the zoonoses

On January 1st, 2006, the Federal Zoonoses Act (128. Bundesgesetz: Zoonosengesetz, published on 18th November 2005) was implemented. The subject of this Act is to ensure that zoonoses, zoonotic agents and related antimicrobial resistance are properly monitored, that food-borne outbreaks receive proper epidemiological investigation, to enable the collection of the information necessary in the EU. According to this Zoonoses Act, to survey and combat the zoonoses in Austria, a Federal Commission for Zoonoses (Zoonoses Commission) has been founded to advise the Federal Minister. The first meeting took place on May 3rd, 2006. The tasks of this Zoonoses Commission are

- Securing of effective and continuous teamwork of special fields concerned
- Cooperation based on free exchange of general information and where necessary, of specific data
- Determination of measures in case of Austrian-wide food borne outbreaks (concerning several provinces by one outbreak)
- Issues the annually report on trends and sources of zoonoses in Austria
- Preparation of risk based, integrated monitoring and surveillance programmes

The Austria-wide monitoring program on the trends of campylobacter prevalence and antimicrobial resistance of campylobacter in broiler and cattle was continued for the fifth year according to the directive 2003/99/EC of the European Parliament and the Council and the Federal Zoonoses Act. The sampling was carried out from January to December 2010, and follow up programs will be implemented in the forthcoming years. In 2010, the monitoring program was suspended in pigs due to low relevance for human infections.

Suggestions to the Community for the actions to be taken

Continue to work for harmonization of monitoring programs

Additional information

If zoonotic agents, which are listed in the national Zoonoses Act, are isolated from human specimen, food or animals the laboratories are obliged to send these strains to the respective national reference lab for typing and comparative analysis.

2.2.2 Campylobacter in foodstuffs

A. Campylobacter spp., unspecified in Food Meat from farmed game- land mammals - fresh - chilled - at retail - Surveillance - official controls - objective sampling (campaign A-803-10)

Monitoring system

Sampling strategy

Random sampling is done according to the sampling plan of the Ministry of Health. Samples are taken at retail outlets by competent authorities.

Frequency of the sampling

Investigation period: September - November

Type of specimen taken

Other: Meat from farmed game – land mammals fresh chilled__

Methods of sampling (description of sampling techniques)

Sample weight: 25g

Definition of positive finding

Detection of Campylobacter in 25g

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs

Results of the investigation

30 samples tested for Campylobacter: 0-times positive

Additional information

Samples were also tested for Salmonella spp., VTEC and Clostridium difficile

B. Thermophilic Campylobacter spp., unspecified in Food All foodstuffs

Monitoring system

Sampling strategy

Foodstuff was sampled according to the ordinance „Revisions- und Probenplan für das Jahr 2009 gemäß §31 LMSVG; Richtlinien über die Vollziehung der Überwachung des Verkehrs mit den durch das LMSVG erfassten Waren; Berichtsschema 2008“ (BMGFJ – 75500/0332-IV/B/7/2008) from the Federal Ministry of Health. This “Revisions- und Probenplan” is part of the multi-annual national control plan (2007-2010) according to Art. 41 ff of Regulation (EC) No 882/2004.

The Revision-Plan determines the number of food enterprises e.g. restaurants, dairies, retail outlets etc. that have to be sampled and tested randomly according to the number of food enterprises per province. Every business within Austria has to be sampled at least once per year. The inspection can comprise sampling, hygienic investigations of the employees, checking of HACCP concepts, control of manufacturing processes etc.

In 2010, approximately 35,000 samples were planned to be tested in Austria. About 75 % of these are planned samples (surveillance) and only these numbers are used in this report (data from suspect samples are not shown). These planned samples either consist of samples of the yearly sampling plan which determines the number of samples of each food category that have to be investigated randomly, e.g. raw meat (fresh or frozen); sausages; cheeses; milk; preserved food etc. There are different sampling stages where food samples are taken: e.g. from retail, processing plant, primary production.

In addition there is a monitoring plan for food items (40-45 campaigns per year). In the course of these programs food items of special interest for defined parameters – amongst others zoonotic agents – are investigated. The sampling takes place during a fixed period of time in order to gain in-dept information. In 2010, seven food campaign programs were conducted throughout Austria dealing with zoonotic agents (Schwerpunktprogramm 2010 BMG-75500/0246-II/B/7/2009). Details and results of these campaigns can be found in the respective chapters.

Diagnostic/analytical methods used

Samples are cultured either according to ISO 10272: 1995 or preenriched in Bolton bouillon at 42 °C for 48 hours and subsequent plated on CCDA- or modified CCDA agar at 42 °C for 48 hours microaerophilic. Campylobacter-like colonies were identified serologically, observing their characteristic motility and morphology under the microscope and the production of catalase and oxidase. Not all isolates of Campylobacter spp. are differentiated.

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

357 single samples of fresh broiler meat were tested and in 10% (= 37 samples) thermotolerant Campylobacter was found (2009: in 26%). In 11 samples of pasteurised cows' milk, no sample was found positive as well as in 36 samples of raw cows' milk.

Additional information

The public is informed about the results via the annual zoonoses brochure.

Table Campylobacter in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Dairy products (excluding cheeses) - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	14	0					
Dairy products (excluding cheeses) - ice-cream - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0					
Fishery products, unspecified - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0					
Meat from farmed game- land mammals - fresh - chilled - at retail - Surveillance - official controls - objective sampling (campaign A-803-10)	*	Single	25g	30	0					
Meat from sheep - meat preparation - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0					
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0					
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0					

Table Campylobacter in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0					
Milk from other animal species or unspecified - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0					
Milk from other animal species or unspecified - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0					
Milk, cows' - pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	11	0					
Milk, cows' - raw - at catering - Surveillance - official controls - objective sampling	*	Single	25g	3	0					
Milk, cows' - raw - at farm - Surveillance - official controls - objective sampling	*	Single	25g	8	0					
Milk, cows' - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0					
Milk, cows' - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0					

Table Campylobacter in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0					
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	0					
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	8	0					
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	10	0					
Milk, goats' - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0					
Milk, goats' - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0					
Milk, sheep's - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0					
Milk, sheep's - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0					

Table Campylobacter in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Other processed food products and prepared dishes - at catering - Surveillance - official controls - objective sampling	*	Single	25g	5	1		1			
Other processed food products and prepared dishes - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0					

Footnote:

* All Official Food Institutes

Table Campylobacter in poultry meat

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus) - fresh - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	30	27	17	10			
Meat from broilers (Gallus gallus) - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	324	10		1			9
Meat from broilers (Gallus gallus) - fresh - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	3	0					
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0					
Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - Surveillance - official controls - objective sampling	*	Single	25g	225	2					2
Meat from duck - Surveillance - official controls - objective sampling	*	Single	25g	2	1					1
Meat from geese - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	12	5					5
Meat from poultry, unspecified - fresh - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	3	2	1			

Table Campylobacter in poultry meat

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0					
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	1	1				
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	1					1
Meat from turkey - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	3					3

Footnote:

* All Official Food Institutes

2.2.3 Campylobacter in animals

A. Campylobacter spp., unspecified in Animals Cattle (bovine animals) - at slaughterhouse - animal sample - faeces - Monitoring - official sampling - objective sampling

Monitoring system

Sampling strategy

Since 2004 monitoring plans on the prevalence of selected zoonotic agents and their antimicrobial resistance have been performed annually. Based on the prevalence of thermotolerant *Campylobacter* in cattle in 2008 the number of caecum samples was calculated ($N = 671$) to obtain 170 thermotolerant *Campylobacter* for antimicrobial susceptibility testing. Caecal contents of slaughtered cattle of Austrian origin were sampled in slaughter houses where at least 80% of all cattle were slaughtered in 2009. The sampling had been stratified on the number of slaughtered animals by abattoirs all over Austria. The date of sampling was randomized over the period of the study.

Frequency of the sampling

Animals at slaughter: The sampling was distributed by randomization over the whole year 2010.

Type of specimen taken

Other: Animals at slaughter: Caecum containing a minimum of 50 to 100 grams of content.

Methods of sampling (description of sampling techniques)

The sampling was performed by official veterinarians carrying out the post-mortem inspection. At time of evisceration a part of the colon was ligated and wrapped in a sterile plastic bag. After cooling down to 4 °C the sample was sent in a hobo box or polystyrene box after adding cooling units to the Institute of Veterinary Diseases Control (IVET) in Graz. In the laboratory some content of each colon was inoculated in selective bouillon suitable for *Campylobacter jejuni/coli*.

Case definition

A bovine animal is considered to be infected with thermotolerant *Campylobacter* following isolation of *Campylobacter jejuni* or *C. coli* from its caecum.

Diagnostic/analytical methods used

Approximately 1 gram of content of the colon was enriched in Preston bouillon in microaerophilic atmosphere for 24 hours at 42 °C. Subsequently the preenrichment was plated on modified CCD agar (mCCDA) and incubated in microaerophilic atmosphere at 42 ± 1 °C for 48 hours. *Campylobacter*-like colonies were identified by observing their characteristic motility and morphology under the microscope and the production of catalase and oxidase.

For typing and differentiating of *C. jejuni* and *C. coli* isolates, hippurate reaction and indoxylacetate-hydrolysis was performed. All *C. jejuni* and *C. coli* isolates were frozen in proteose pepton solution containing 10% glycerol or thioglycolate-broth at -70 °C.

For quality control *Campylobacter jejuni* ATCC 33560, *Escherichia coli* ATCC 25922 and internal control isolates of *C. jejuni* and *C. coli*.

Statistical analysis was performed with EpiInfo version 3.3.5.

Vaccination policy

Vaccination is not performed in Austria

Other preventive measures than vaccination in place

None

Control program/mechanisms

The control program/strategies in place

None

Recent actions taken to control the zoonoses

None

Suggestions to the Community for the actions to be taken

Emphasis should be placed on education of the people for a better care in kitchen hygiene.

Measures in case of the positive findings or single cases

None

Notification system in place

Findings of *C. jejuni* and *C. coli* in animals must not be reported to authorities in Austria.

Results of the investigation

See respective tables

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

In 184 out of 671 (27.4%) caecum samples from slaughtered bovine animals thermotolerant *Campylobacter* were detected. There was no significant change in the prevalence compared to the previous years (28.5% in 2008). Due to the 47% prevalence of positive broiler slaughter batches for thermotolerant *Campylobacter*, there may be a higher risk for humans to get infected from poultry meat than from the consumption of beef or veal.

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

Nil

Additional information

Nil

B. Campylobacter spp., unspecified in Animals Gallus gallus (fowl) - broilers - at slaughterhouse - Survey - EU baseline survey (official sampling - objective sampling)

Monitoring system

Sampling strategy

In 2010 the monitoring on the prevalence and antimicrobial resistance of *Campylobacter* spp. was continued in broiler flocks. The period of sampling was randomized over the whole year. Sampling was performed in the 5 broiler slaughter facilities with slaughter batches consisting of >2000 animals in Austria in 2009.

Frequency of the sampling

Rearing period: no program

Before slaughter at farm: no program

At slaughter: according to the randomized sampling plan

Type of specimen taken

Other: Intestines of 10 animals per slaughter batch.

Methods of sampling (description of sampling techniques)

Rearing period: no program

Before slaughter at farm: no program

At slaughter: The sampling was performed by official veterinarians carrying out the post-mortem inspection. At time of evisceration the whole intestines of 10 animals were taken and wrapped in a sterile plastic bag. Additionally a carcass from the same slaughter batch was sampled. After cooling down to 4 °C the sample was sent in a hobbox or polystyrene box after adding cooling units to the Institute of Veterinary Diseases Control (IVET) in Graz. In the laboratory a caecum of each intestinal convolute was identified, some content of each caecum pooled and plated on selective medium suitable for *Campylobacter jejuni/coli*.

Case definition

At slaughter: A slaughter batch is considered to be infected with thermotolerant *Campylobacter* following isolation of *Campylobacter jejuni* or *C. coli* from the pooled caecal content.

Diagnostic/analytical methods used

At slaughter: The pooled samples were examined by direct inoculation on modified CCD agar (mCCDA) that was incubated in microaerophilic atmosphere at 42 ± 1 °C for 48 hours. *Campylobacter*-like colonies were identified by observing their characteristic motility and morphology under the microscope and the production of catalase and oxidase. For typing and differentiating of *C. jejuni* and *C. coli* isolates, hippurate reaction and indoxylacetate-hydrolysis was performed. All *C. jejuni* and *C. coli* isolates were frozen in proteose peptone solution containing 10 % glycerol or thioglycolat-broth at -70 °C. For quality control *Campylobacter jejuni* ATCC 33560, *Escherichia coli* ATCC 25922 and internal control isolates *C. jejuni* and *C. coli* were used. Statistical analysis was performed with EpiInfo version 3.3.2.

Vaccination policy

Vaccination is not performed in Austria.

Other preventive measures than vaccination in place

Different strategies are in discussion, e.g. a quick test for identification of campylobacter infected flocks at farm.

Control program/mechanisms

The control program/strategies in place

None

Recent actions taken to control the zoonoses

None

Suggestions to the Community for the actions to be taken

Emphasis should be placed on education of the people for a better care in kitchen hygiene.

Measures in case of the positive findings or single cases

None

Notification system in place

Findings of *C. jejuni* and *C. coli* in animals must not be reported to authorities in Austria.

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

In the course of this monitoring thermotolerant *Campylobacter* were detected in 184 out of 394 (46.7%) of the tested slaughter batches. Due to the fact that poultry is the animal species with the highest prevalence of *Campylobacter jejuni* and *coli*, poultry meat seem to be the most risky food combined with mistakes in kitchen hygiene for humans acquiring an infection with *C. jejuni/coli*.

Additional information

The public is informed about the results via the annual zoonoses brochure.

C. Campylobacter spp., unspecified in Animals Pigs - at slaughterhouse - Monitoring - official sampling - objective sampling

Monitoring system

Sampling strategy

No monitoring in 2010 due to the presumably low relevance of pigs for infections in humans (up to 99% of campylobacter in pigs are *C. coli*).

Table Campylobacter in animals

	Source of information	Sampling unit	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling	AGES IVET	Animal	463	105	22	83			
Cattle (bovine animals) - meat production animals - calves (under 1 year) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling	AGES IVET	Animal	14	0	0	0			
Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling	AGES IVET	Animal	194	79	17	62			
Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling ¹⁾	AGES IVET	Slaughter batch	394	184	62	122			

Comments:

¹⁾ 10 intestines per slaughter batch

2.2.4 Antimicrobial resistance in Campylobacter isolates

A. Antimicrobial resistance of C. coli in Food Meat from broilers (Gallus gallus)

Sampling strategy used in monitoring

Frequency of the sampling

Isolates from broiler meat isolated in the course of the national food surveillance programs that were sent to the national reference centre for Campylobacter were tested for antimicrobial susceptibility.

Type of specimen taken

Food surveillance programs

Methods of sampling (description of sampling techniques)

Described in chapter: Thermotolerant campylobacter in food

Procedures for the selection of isolates for antimicrobial testing

Testing of all isolates will be performed in the AGES Institute for Medical Microbiology and Hygiene in Graz. All 2010 campylobacter isolates from broiler meat were tested.

Methods used for collecting data

All informations concerning the tested food and results of the antimicrobial testing were entered and analysed in a Microsoft® Excel tables.

Laboratory methodology used for identification of the microbial isolates

Described in chapter thermotolerant campylobacter in broilers.

Broth micro dilution susceptibility testing of Campylobacter spp. isolates was done using customised Sensititre® susceptibility micro titre plates (TREK Diagnostic Systems, Ltd., East Grinstead, West Sussex, and England). Briefly, Campylobacter spp. strains were subcultivated on Columbia blood agar and incubated for 48 hours at 37 °C in a microaerophilic atmosphere. Inocula from fresh cultures were prepared by suspension in physiological saline to obtain a turbidity equivalent to that of a McFarland standard 0.5. The suspension was added to Mueller Hinton bouillon for a final concentration of approximately 500,000 cfu/ml and incubated for 48 hours at 37 °C in a microaerophilic atmosphere. Campylobacter jejuni ATCC 33560 was used as control.

MIC values have been entered in a Microsoft® Excel datasheet.

The number of isolates that are fully sensitive and the number of isolates resistant to 1, 2, 3, 4 and > 4 antimicrobials for Campylobacter includes only resistance to tetracycline, erythromycin, ciprofloxacin, gentamicin, and streptomycin!

Preventive measures in place

None

Control program/mechanisms

The control program/strategies in place

Samples from food animals were monitored for antimicrobial residues according to a randomized sampling scheme (BMGF-74320/0003-IV/B/7/2010, Rückstandsuntersuchung-Durchführungserlass 2007).

Recent actions taken to control the zoonoses

Austria - 2010 Report on trends and sources of zoonoses

A project has been started to assess the appropriate method for collecting data on antimicrobial usage in animals. Results of this study are expected in 2011.

Suggestions to the Community for the actions to be taken

Nil

Measures in case of the positive findings or single cases

Nil

Notification system in place

No notification system for resistant isolates in place.

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

2010, 69 % (n = 16) *C. jejuni* isolated from broiler meat showed resistance to ciprofloxacin and 31 % to tetracycline; no resistance was found against erythromycin. In *C. coli* even higher resistance rates were observed (ciprofloxacin 79 %, tetracycline 67 %).

B. Antimicrobial resistance of *C. jejuni* in Food Meat from broilers (*Gallus gallus*)

Sampling strategy used in monitoring

Frequency of the sampling

Isolates from broiler meat isolated in the course of the national food surveillance programs that were sent to the national reference centre for *Campylobacter* were tested for antimicrobial susceptibility.

Type of specimen taken

Food surveillance programs

Methods of sampling (description of sampling techniques)

Described in chapter: Thermotolerant campylobacter in food

Procedures for the selection of isolates for antimicrobial testing

Testing of all isolates will be performed in the AGES Institute for Medical Microbiology and Hygiene in Graz. All 2010 campylobacter isolates from broiler meat were tested.

Methods used for collecting data

All informations concerning the tested food and results of the antimicrobial testing were entered and analysed in a Microsoft® Excel tables.

Laboratory methodology used for identification of the microbial isolates

Described in chapter thermotolerant campylobacter in broilers.

Broth micro dilution susceptibility testing of *Campylobacter* spp. isolates was done using customised Sensititre® susceptibility micro titre plates (TREK Diagnostic Systems, Ltd., East Grinstead, West Sussex, and England). Briefly, *Campylobacter* spp. strains were subcultivated on Columbia blood agar and incubated for 48 hours at 37 °C in a microaerophilic atmosphere. Inocula from fresh cultures were prepared by suspension in physiological saline to obtain a turbidity equivalent to that of a McFarland standard 0.5. The suspension was added to Mueller Hinton bouillon for a final concentration of approximately 500,000 cfu/ml and incubated for 48 hours at 37 °C in a microaerophilic atmosphere. *Campylobacter jejuni* ATCC 33560 was used as control.

MIC values have been entered in a Microsoft® Excel datasheet.

The number of isolates that are fully sensitive and the number of isolates resistant to 1, 2, 3, 4 and > 4 antimicrobials for *Campylobacter* includes only resistance to tetracycline, erythromycin, ciprofloxacin, gentamicin, and streptomycin!

Preventive measures in place

None

Control program/mechanisms

The control program/strategies in place

Samples from food animals were monitored for antimicrobial residues according to a randomized sampling scheme (BMGF-74320/0003-IV/B/7/2010, Rückstandsuntersuchung-Durchführungserlass 2007).

Recent actions taken to control the zoonoses

A project has been started to assess the appropriate method for collecting data on antimicrobial usage in animals. Results of this study are expected in 2011.

Suggestions to the Community for the actions to be taken

Nil

Measures in case of the positive findings or single cases

Nil

Notification system in place

No notification system for resistant isolates in place.

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

2010, 69 % (n = 16) *C. jejuni* isolated from broiler meat showed resistance to ciprofloxacin and 31 % to tetracycline; no resistance was found against erythromycin. In *C. coli* even higher resistance rates were observed (ciprofloxacin 79 %, tetracycline 67 %).

C. Antimicrobial resistance of *C. coli* in Animals

Sampling strategy used in monitoring

Frequency of the sampling

Described in chapter: Thermotolerant campylobacter in broilers and cattle.

Type of specimen taken

Described in chapter: Thermotolerant campylobacter in broilers

Methods of sampling (description of sampling techniques)

Described in chapter: Thermotolerant campylobacter in broilers

Procedures for the selection of isolates for antimicrobial testing

Testing of all isolates will be performed in the AGES Institute for Medical Microbiology and Hygiene in Graz. The randomized sampling plan was calculated to obtain approximately 170 thermotolerant *Campylobacter* isolates per animal species. If less than 170 isolates were obtained, all isolates were tested. If more than 170 thermotolerant *Campylobacter* were isolated 170 were randomly chosen.

Methods used for collecting data

All informations concerning the tested animals, sampled slaughterhouses and results of the antimicrobial testing were entered and analysed in a Microsoft® Excel tables.

Laboratory methodology used for identification of the microbial isolates

Described in chapter thermotolerant campylobacter in broilers.

Broth micro dilution susceptibility testing of *Campylobacter* spp. isolates was done using customised Sensititre® susceptibility micro titre plates (TREK Diagnostic Systems, Ltd., East Grinstead, West Sussex, and England). Briefly, *Campylobacter* spp. strains were subcultivated on Columbia blood agar and incubated for 48 hours at 37 °C in a microaerophilic atmosphere. Inocula from fresh cultures were prepared by suspension in physiological saline to obtain a turbidity equivalent to that of a McFarland standard 0.5. The suspension was added to Mueller Hinton bouillon for a final concentration of approximately 500,000 cfu/ml and incubated for 48 hours at 37 °C in a microaerophilic atmosphere. *Campylobacter jejuni* ATCC 33560 was used as control.

MIC values have been entered in a Microsoft® Excel datasheet.

The number of isolates that are fully sensitive and the number of isolates resistant to 1, 2, 3, 4 and > 4 antimicrobials for *Campylobacter* includes only resistance to tetracycline, erythromycin, ciprofloxacin, gentamicin, and streptomycin!

Preventive measures in place

None

Control program/mechanisms

The control program/strategies in place

Samples from food animals were monitored for antimicrobial residues according to a randomized sampling scheme (BMGF-74320/0003-IV/B/7/2010, Rückstandsuntersuchung-Durchführungserlass 2007).

Recent actions taken to control the zoonoses

A project has been started to assess the appropriate method for collecting data on antimicrobial usage in animals. Results of this study are expected in 2011.

Suggestions to the Community for the actions to be taken

Nil

Measures in case of the positive findings or single cases

Nil

Notification system in place

No notification system for resistant isolates in place.

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

2010, in *C. jejuni* isolated from broiler the high level of resistance remained for ciprofloxacin (49% in 2008 to 59% in 2009) at 56%. For tetracycline the resistance rates did not differ significantly in the last years (2008: 26%; 2009: 30%; 2010: 25%); similar trends could also be seen in isolates from humans; all isolates were sensitive for erythromycin as in 2008 and 2009.

D. Antimicrobial resistance of *C. jejuni* in Animals

Sampling strategy used in monitoring

Frequency of the sampling

Described in chapter: Thermotolerant campylobacter in broilers and cattle.

Type of specimen taken

Described in chapter: Thermotolerant campylobacter in broilers

Methods of sampling (description of sampling techniques)

Described in chapter: Thermotolerant campylobacter in broilers

Procedures for the selection of isolates for antimicrobial testing

Testing of all isolates will be performed in the AGES Institute for Medical Microbiology and Hygiene in Graz. The randomized sampling plan was calculated to obtain approximately 170 thermotolerant *Campylobacter* isolates per animal species. If less than 170 isolates were obtained, all isolates were tested. If more than 170 thermotolerant *Campylobacter* were isolated 170 were randomly chosen.

Methods used for collecting data

All informations concerning the tested animals, sampled slaughterhouses and results of the antimicrobial testing were entered and analysed in a Microsoft® Excel tables.

Laboratory methodology used for identification of the microbial isolates

Described in chapter thermotolerant campylobacter in broilers.

Broth micro dilution susceptibility testing of *Campylobacter* spp. isolates was done using customised Sensititre® susceptibility micro titre plates (TREK Diagnostic Systems, Ltd., East Grinstead, West Sussex, and England). Briefly, *Campylobacter* spp. strains were subcultivated on Columbia blood agar and incubated for 48 hours at 37 °C in a microaerophilic atmosphere. Inocula from fresh cultures were prepared by suspension in physiological saline to obtain a turbidity equivalent to that of a McFarland standard 0.5. The suspension was added to Mueller Hinton bouillon for a final concentration of approximately 500,000 cfu/ml and incubated for 48 hours at 37 °C in a microaerophilic atmosphere. *Campylobacter jejuni* ATCC 33560 was used as control.

MIC values have been entered in a Microsoft® Excel datasheet.

The number of isolates that are fully sensitive and the number of isolates resistant to 1, 2, 3, 4 and > 4 antimicrobials for *Campylobacter* includes only resistance to tetracycline, erythromycin, ciprofloxacin, gentamicin, and streptomycin!

Preventive measures in place

None

Control program/mechanisms

The control program/strategies in place

Samples from food animals were monitored for antimicrobial residues according to a randomized sampling scheme (BMGF-74320/0003-IV/B/7/2010, Rückstandsuntersuchung-Durchführungserlass 2007).

Recent actions taken to control the zoonoses

A project has been started to assess the appropriate method for collecting data on antimicrobial usage in animals. Results of this study are expected in 2011.

Suggestions to the Community for the actions to be taken

Nil

Measures in case of the positive findings or single cases

Nil

Notification system in place

No notification system for resistant isolates in place.

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

2010, in *C. jejuni* isolated from broiler the high level of resistance remained for ciprofloxacin (49% in 2008 to 59% in 2009) at 56%. For tetracycline the resistance rates did not differ significantly in the last years (2008: 26%; 2009: 30%; 2010: 25%); similar trends could also be seen in isolates from humans; all isolates were sensitive for erythromycin as in 2008 and 2009.

Table Antimicrobial susceptibility testing of *C. jejuni* in Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

C. jejuni	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	90	0																	58		26		3		3	
Tetracyclines - Tetracycline	2	90	15									24		29		15		5		2						1	
Fluoroquinolones - Ciprofloxacin	1	90	33							18		35		3				1				1		12		14	
Quinolones - Nalidixic acid	16	90	34																	16		29		11			
Aminoglycosides - Streptomycin	2	90	1													76		13									
Aminoglycosides - Gentamicin	1	90	0									63		27													
Aminoglycosides - Neomycin	1	90	0									2		52		35		1									
Penicillins - Ampicillin	8	90	14													8		2		18		35		13		3	
Carbapenems - Imipenem	8	90	0							89		1															
Macrolides - Erythromycin	4	90	0											6		33		43		8							
Penicillins - Amoxicillin / Clavulanic acid	16	90	0															61		26		3					
Polymyxins - Colistin	32	90	0																			76		13			

C. jejuni	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64

Table Antimicrobial susceptibility testing of *C. jejuni* in Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

C. jejuni Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Tetracyclines - Tetracycline		3		1	10													0.12	64
Fluoroquinolones - Ciprofloxacin		2	4															0.06	32
Quinolones - Nalidixic acid				1		10		21	2									2	256
Aminoglycosides - Streptomycin			1															0.5	32
Aminoglycosides - Gentamicin																		0.12	16
Aminoglycosides - Neomycin																		0.12	8
Penicillins - Ampicillin		4		6	1													0.5	64
Carbapenems - Imipenem																		0.06	8
Macrolides - Erythromycin																		0.25	128
Penicillins - Amoxicillin / Clavulanic acid																		1	64
Polymyxins - Colistin		1																4	64

Table Antimicrobial susceptibility testing of *C. jejuni* in Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

C. jejuni	Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	69	0																	44		16		9			
Tetracyclines - Tetracycline	2	69	6									16		34		9		3		1							
Fluoroquinolones - Ciprofloxacin	1	69	29							16		19		4		1								15		8	
Quinolones - Nalidixic acid	16	69	29																	11		19		10			
Aminoglycosides - Streptomycin	2	69	0													60		9									
Aminoglycosides - Gentamicin	1	69	0									48		21													
Aminoglycosides - Neomycin	1	69	0									4		30		34		1									
Penicillins - Ampicillin	8	69	11													5		2		13		27		11		2	
Carbapenems - Imipenem	8	69	0							68		1															
Macrolides - Erythromycin	4	69	0											8		21		30		9		1					
Penicillins - Amoxicillin / Clavulanic acid	16	69	0															49		20							
Polymyxins - Colistin	32	69	0																			58		10		1	

C. jejuni	Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64

Table Antimicrobial susceptibility testing of *C. jejuni* in Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

C. jejuni	Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Tetracyclines - Tetracycline				2	4													0.12	64
Fluoroquinolones - Ciprofloxacin		6																0.06	32
Quinolones - Nalidixic acid						9		19	1									2	256
Aminoglycosides - Streptomycin																		0.5	32
Aminoglycosides - Gentamicin																		0.12	16
Aminoglycosides - Neomycin																		0.12	8
Penicillins - Ampicillin		3		5	1													0.5	64
Carbapenems - Imipenem																		0.06	8
Macrolides - Erythromycin																		0.25	128
Penicillins - Amoxicillin / Clavulanic acid																		1	64
Polymyxins - Colistin																		4	64

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

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

C. coli	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (slaughter batch)																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	16	46	0																	11		25		10				
Tetracyclines - Tetracycline	2	46	24									10		5		4		1		2						1		
Fluoroquinolones - Ciprofloxacin	1	46	37							5		3		1						2		8		13		11		
Quinolones - Nalidixic acid	32	46	37																			7		2				
Aminoglycosides - Streptomycin	4	46	5													14		27						1		1		
Aminoglycosides - Gentamicin	2	46	0									9		34		3												
Aminoglycosides - Neomycin	2	46	0											9		34		3										
Penicillins - Ampicillin	16	46	5																	2		19		17		3		
Carbapenems - Imipenem	8	46	0									16		30														
Macrolides - Erythromycin	16	46	4											6		9		7		17		3						
Penicillins - Amoxicillin / Clavulanic acid	16	46	0															7		20		14		3		2		
Polymyxins - Colistin	32	46	0																			46						

C. coli	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (slaughter batch)																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64

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

C. coli	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (slaughter batch)																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Tetracyclines - Tetracycline				2	21													0.12	64
Fluoroquinolones - Ciprofloxacin		3																0.06	32
Quinolones - Nalidixic acid				1		25		11										2	256
Aminoglycosides - Streptomycin		2	1															0.5	32
Aminoglycosides - Gentamicin																		0.12	16
Aminoglycosides - Neomycin																		0.12	8
Penicillins - Ampicillin				2	3													0.5	64
Carbapenems - Imipenem																		0.06	8
Macrolides - Erythromycin							4											0.25	128
Penicillins - Amoxicillin / Clavulanic acid																		1	64
Polymyxins - Colistin																		4	64

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

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

C. jejuni	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (slaughter batch)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	134	0																	82		34		12		6	
Tetracyclines - Tetracycline	2	134	34									25		44		12		14		5				2			
Fluoroquinolones - Ciprofloxacin	1	134	75							18		38		2		1						2		31		27	
Quinolones - Nalidixic acid	16	134	71																	19		35		8		1	
Aminoglycosides - Streptomycin	2	134	0													113		21									
Aminoglycosides - Gentamicin	1	134	0									79		53		2											
Aminoglycosides - Neomycin	1	134	0									4		59		65		6									
Penicillins - Ampicillin	8	134	35															3		28		53		15		5	
Carbapenems - Imipenem	8	134	0							128		6															
Macrolides - Erythromycin	4	134	0											14		57		55		8							
Penicillins - Amoxicillin / Clavulanic acid	16	134	0															84		47		3					
Polymyxins - Colistin	32	134	0																			118		14		2	

C. jejuni	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (slaughter batch)																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64

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

C. jejuni	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (slaughter batch)																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Tetracyclines - Tetracycline		6		13	13													0.12	64
Fluoroquinolones - Ciprofloxacin		10	5															0.06	32
Quinolones - Nalidixic acid				1		21		42	7									2	256
Aminoglycosides - Streptomycin																		0.5	32
Aminoglycosides - Gentamicin																		0.12	16
Aminoglycosides - Neomycin																		0.12	8
Penicillins - Ampicillin		9		18	3													0.5	64
Carbapenems - Imipenem																		0.06	8
Macrolides - Erythromycin																		0.25	128
Penicillins - Amoxicillin / Clavulanic acid																		1	64
Polymyxins - Colistin																		4	64

Table Antimicrobial susceptibility testing of C. coli in Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

C. coli	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	4	0																			3		1			
Tetracyclines - Tetracycline	2	4	2											2													
Fluoroquinolones - Ciprofloxacin	1	4	3									1										1		1		1	
Quinolones - Nalidixic acid	32	4	3																					1			
Aminoglycosides - Streptomycin	4	4	2													2										1	
Aminoglycosides - Gentamicin	2	4	0									2		2													
Aminoglycosides - Neomycin	2	4	0											2		2											
Penicillins - Ampicillin	16	4	0																	1		2				1	
Carbapenems - Imipenem	8	4	0									2		2													
Macrolides - Erythromycin	16	4	0													1		1				2					
Penicillins - Amoxicillin / Clavulanic acid	16	4	0																	3		1					
Polymyxins - Colistin	32	4	0																			4					

C. coli	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64

Table Antimicrobial susceptibility testing of *C. coli* in Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

C. coli	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Tetracyclines - Tetracycline					2													0.12	64
Fluoroquinolones - Ciprofloxacin																		0.06	32
Quinolones - Nalidixic acid						1		2										2	256
Aminoglycosides - Streptomycin		1																0.5	32
Aminoglycosides - Gentamicin																		0.12	16
Aminoglycosides - Neomycin																		0.12	8
Penicillins - Ampicillin																		0.5	64
Carbapenems - Imipenem																		0.06	8
Macrolides - Erythromycin																		0.25	128
Penicillins - Amoxicillin / Clavulanic acid																		1	64
Polymyxins - Colistin																		4	64

Table Antimicrobial susceptibility testing of *C. coli* in Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

C. coli	Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	6	0																	2				3		1	
Tetracyclines - Tetracycline	2	6	5															1									
Fluoroquinolones - Ciprofloxacin	1	6	2							2		2												1		1	
Quinolones - Nalidixic acid	32	6	2																			1		3			
Aminoglycosides - Streptomycin	4	6	2															3		1							
Aminoglycosides - Gentamicin	2	6	0											4		2											
Aminoglycosides - Neomycin	2	6	0													4		2									
Penicillins - Ampicillin	16	6	0																					4		2	
Carbapenems - Imipenem	8	6	0									4		2													
Macrolides - Erythromycin	16	6	0															2		2		1		1			
Penicillins - Amoxicillin / Clavulanic acid	16	6	0																	1		5					
Polymyxins - Colistin	32	6	0																			6					

C. coli Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	64

Table Antimicrobial susceptibility testing of *C. coli* in Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

C. coli Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Tetracyclines - Tetracycline					5													0.12	64
Fluoroquinolones - Ciprofloxacin																		0.06	32
Quinolones - Nalidixic acid								2										2	256
Aminoglycosides - Streptomycin		1	1															0.5	32
Aminoglycosides - Gentamicin																		0.12	16
Aminoglycosides - Neomycin																		0.12	8
Penicillins - Ampicillin																		0.5	64
Carbapenems - Imipenem																		0.06	8
Macrolides - Erythromycin																		0.25	128
Penicillins - Amoxicillin / Clavulanic acid																		1	64
Polymyxins - Colistin																		4	64

Table Antimicrobial susceptibility testing of *C. coli* in Meat from broilers (*Gallus gallus*) - fresh - chilled - at retail - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

C. coli	Meat from broilers (Gallus gallus) - fresh - chilled - at retail - Monitoring - official sampling - objective sampling																									
	yes																									
	24																									
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest	
Amphenicols - Chloramphenicol	16	24	0									10	12	2										2	64	
Tetracyclines - Tetracycline	2	24	16					5	2	1	0	0	0	0	0	0	1	15						0.125	64	
Fluoroquinolones - Ciprofloxacin	1	24	19				3	2					4	11	3	1								0.06	32	
Quinolones - Nalidixic acid	32	24	19										4	1				14	5					2	256	
Aminoglycosides - Streptomycin	4	24	8							8	8			1	5	2								0.5	32	
Aminoglycosides - Gentamicin	2	24	0					7	17															0.12	16	
Aminoglycosides - Neomycin	2	24	0						10	12	2													0.12	8	
Penicillins - Ampicillin	16	24	6									1	9	4	4	3	2	1						0.5	64	
Macrolides - Erythromycin	16	24	0						2	7	6	8	1											0.25	128	
Penicillins - Amoxicillin / Clavulanic acid	16	24	0								4	11	6	2	1									1	64	
Polymyxins - Colistin	32	24	0										20	3	1									4	128	

The following amendments were made:

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Macrolides - Erythromycin	n		0
	Macrolides - Erythromycin	N		24
	Macrolides - Erythromycin	4		1
	Macrolides - Erythromycin	0.5		7
	Macrolides - Erythromycin	lowest		0.25
	Macrolides - Erythromycin	2		8
	Macrolides - Erythromycin	1		6
	Macrolides - Erythromycin	0.25		2
	Macrolides - Erythromycin	highest		128
	Polymyxins - Colistin	8		3
	Polymyxins - Colistin	4		20
	Polymyxins - Colistin	highest		128
	Polymyxins - Colistin	N		24
	Polymyxins - Colistin	16		1
	Polymyxins - Colistin	lowest		4

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Polymyxins - Colistin	n		0
	Penicillins - Amoxicillin / Clavulanic acid	1		4
	Penicillins - Amoxicillin / Clavulanic acid	lowest		1
	Penicillins - Amoxicillin / Clavulanic acid	16		1
	Penicillins - Amoxicillin / Clavulanic acid	N		24
	Penicillins - Amoxicillin / Clavulanic acid	n		0
	Penicillins - Amoxicillin / Clavulanic acid	8		2
	Penicillins - Amoxicillin / Clavulanic acid	highest		64
	Penicillins - Amoxicillin / Clavulanic acid	4		6
	Penicillins - Amoxicillin / Clavulanic acid	2		11
	Penicillins - Ampicillin	n		6
	Penicillins - Ampicillin	N		24
	Penicillins - Ampicillin	128		1
	Penicillins - Ampicillin	8		4
	Penicillins - Ampicillin	lowest		0.5
	Penicillins - Ampicillin	16		4

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Penicillins - Ampicillin	highest		64
	Penicillins - Ampicillin	64		2
	Penicillins - Ampicillin	4		9
	Penicillins - Ampicillin	32		3
	Penicillins - Ampicillin	2		1
	Aminoglycosides - Neomycin	N		24
	Aminoglycosides - Neomycin	0.5		12
	Aminoglycosides - Neomycin	highest		8
	Aminoglycosides - Neomycin	lowest		0.12
	Aminoglycosides - Neomycin	n		0
	Aminoglycosides - Neomycin	1		2
	Aminoglycosides - Neomycin	0.25		10
	Aminoglycosides - Gentamicin	n		0
	Aminoglycosides - Gentamicin	N		24
	Aminoglycosides - Gentamicin	0.25		17
	Aminoglycosides - Gentamicin	lowest		0.12

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Aminoglycosides - Gentamicin	highest		16
	Aminoglycosides - Gentamicin	0.12		7
	Aminoglycosides - Streptomycin	N		24
	Aminoglycosides - Streptomycin	8		1
	Aminoglycosides - Streptomycin	16		5
	Aminoglycosides - Streptomycin	n		8
	Aminoglycosides - Streptomycin	0.5		8
	Aminoglycosides - Streptomycin	lowest		0.5
	Aminoglycosides - Streptomycin	32		2
	Aminoglycosides - Streptomycin	1		8
	Aminoglycosides - Streptomycin	highest		32
	Quinolones - Nalidixic acid	N		24
	Quinolones - Nalidixic acid	n		19
	Quinolones - Nalidixic acid	lowest		2
	Quinolones - Nalidixic acid	4		4
	Quinolones - Nalidixic acid	8		1

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Quinolones - Nalidixic acid	highest		256
	Quinolones - Nalidixic acid	256		5
	Quinolones - Nalidixic acid	128		14
	Fluoroquinolones - Ciprofloxacin	N		24
	Fluoroquinolones - Ciprofloxacin	4		4
	Fluoroquinolones - Ciprofloxacin	0.12		2
	Fluoroquinolones - Ciprofloxacin	n		19
	Fluoroquinolones - Ciprofloxacin	highest		32
	Fluoroquinolones - Ciprofloxacin	16		3
	Fluoroquinolones - Ciprofloxacin	32		1
	Fluoroquinolones - Ciprofloxacin	lowest		0.06
	Fluoroquinolones - Ciprofloxacin	8		11
	Fluoroquinolones - Ciprofloxacin	0.06		3
	Tetracyclines - Tetracycline	N		24
	Tetracyclines - Tetracycline	8		0
	Tetracyclines - Tetracycline	16		0

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Tetracyclines - Tetracycline	lowest		0.125
	Tetracyclines - Tetracycline	4		0
	Tetracyclines - Tetracycline	highest		64
	Tetracyclines - Tetracycline	n		16
	Tetracyclines - Tetracycline	0.5		1
	Tetracyclines - Tetracycline	1		0
	Tetracyclines - Tetracycline	32		0
	Tetracyclines - Tetracycline	0.12		5
	Tetracyclines - Tetracycline	64		1
	Tetracyclines - Tetracycline	0.25		2
	Tetracyclines - Tetracycline	128		15
	Tetracyclines - Tetracycline	2		0
	Amphenicols - Chloramphenicol	n		0
	Amphenicols - Chloramphenicol	N		24
	Amphenicols - Chloramphenicol	highest		64
	Amphenicols - Chloramphenicol	8		2

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Amphenicols - Chloramphenicol	4		12
	Isolates out of a monitoring program (yes/no)			yes
	Number of isolates available in the laboratory			24
	Amphenicols - Chloramphenicol	lowest		2
	Amphenicols - Chloramphenicol	2		10

Table Antimicrobial susceptibility testing of *C. jejuni* in Meat from broilers (*Gallus gallus*) - fresh - chilled - at retail - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

C. jejuni	Meat from broilers (Gallus gallus) - fresh - chilled - at retail - Monitoring - official sampling - objective sampling																										
	yes																										
	16																										
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Amphenicols - Chloramphenicol	16	16	0									13	3											2	64		
Tetracyclines - Tetracycline	2	16	5					3	7	1							2	3						0.12	64		
Fluoroquinolones - Ciprofloxacin	1	16	11				3	2						7	4									0.06	32		
Quinolones - Nalidixic acid	16	16	7									6	3					5	2					2	256		
Aminoglycosides - Streptomycin	2	16	1							13	2						1							0.5	32		
Aminoglycosides - Gentamicin	1	16	0					7	8	1														0.12	16		
Aminoglycosides - Neomycin	1	16	0						6	10														0.12	8		
Penicillins - Ampicillin	8	16	8									3	5		1	3	3	1						0.5	64		
Macrolides - Erythromycin	4	16	0						1	12	3																
Penicillins - Amoxicillin / Clavulanic acid	16	16	0								14	1	1											1	64		
Polymyxins - Colistin	32	16	0										15		1									4	128		

The following amendments were made:

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Macrolides - Erythromycin	n		0
	Penicillins - Amoxicillin / Clavulanic acid	n		0
	Polymyxins - Colistin	n		0
	Penicillins - Amoxicillin / Clavulanic acid	N		16
	Macrolides - Erythromycin	1		3
	Penicillins - Amoxicillin / Clavulanic acid	lowest		1
	Penicillins - Amoxicillin / Clavulanic acid	highest		64
	Polymyxins - Colistin	N		16
	Macrolides - Erythromycin	0.25		1
	Polymyxins - Colistin	4		15
	Polymyxins - Colistin	16		1
	Macrolides - Erythromycin	0.5		12
	Penicillins - Amoxicillin / Clavulanic acid	4		1
	Macrolides - Erythromycin	N		16
	Penicillins - Amoxicillin / Clavulanic acid	1		14

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Polymyxins - Colistin	lowest		4
	Polymyxins - Colistin	highest		128
	Penicillins - Amoxicillin / Clavulanic acid	2		1
	Penicillins - Ampicillin	32		3
	Penicillins - Ampicillin	2		3
	Penicillins - Ampicillin	highest		64
	Penicillins - Ampicillin	lowest		0.5
	Penicillins - Ampicillin	4		5
	Penicillins - Ampicillin	n		8
	Penicillins - Ampicillin	64		3
	Penicillins - Ampicillin	N		16
	Penicillins - Ampicillin	16		1
	Penicillins - Ampicillin	128		1
	Aminoglycosides - Neomycin	0.5		10
	Aminoglycosides - Gentamicin	n		0
	Aminoglycosides - Gentamicin	0.25		8

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Aminoglycosides - Neomycin	highest		8
	Aminoglycosides - Neomycin	N		16
	Aminoglycosides - Neomycin	n		0
	Aminoglycosides - Neomycin	0.25		6
	Aminoglycosides - Gentamicin	lowest		0.12
	Aminoglycosides - Gentamicin	0.12		7
	Aminoglycosides - Gentamicin	0.5		1
	Aminoglycosides - Gentamicin	highest		16
	Aminoglycosides - Gentamicin	N		16
	Aminoglycosides - Neomycin	lowest		0.12
	Aminoglycosides - Streptomycin	N		16
	Aminoglycosides - Streptomycin	n		1
	Aminoglycosides - Streptomycin	0.5		13
	Aminoglycosides - Streptomycin	64		1
	Aminoglycosides - Streptomycin	lowest		0.5
	Aminoglycosides - Streptomycin	highest		32

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Aminoglycosides - Streptomycin	1		2
	Quinolones - Nalidixic acid	lowest		2
	Quinolones - Nalidixic acid	128		5
	Quinolones - Nalidixic acid	N		16
	Quinolones - Nalidixic acid	n		7
	Quinolones - Nalidixic acid	4		3
	Quinolones - Nalidixic acid	256		2
	Quinolones - Nalidixic acid	2		6
	Quinolones - Nalidixic acid	highest		256
	Fluoroquinolones - Ciprofloxacin	lowest		0.06
	Fluoroquinolones - Ciprofloxacin	N		16
	Fluoroquinolones - Ciprofloxacin	n		11
	Fluoroquinolones - Ciprofloxacin	highest		32
	Fluoroquinolones - Ciprofloxacin	0.06		3
	Fluoroquinolones - Ciprofloxacin	0.12		2
	Fluoroquinolones - Ciprofloxacin	16		4

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Fluoroquinolones - Ciprofloxacin	8		7
	Tetracyclines - Tetracycline	n		5
	Tetracyclines - Tetracycline	highest		64
	Tetracyclines - Tetracycline	64		2
	Tetracyclines - Tetracycline	0.12		3
	Tetracyclines - Tetracycline	128		3
	Tetracyclines - Tetracycline	0.25		7
	Tetracyclines - Tetracycline	0.5		1
	Tetracyclines - Tetracycline	lowest		0.12
	Tetracyclines - Tetracycline	N		16
	Amphenicols - Chloramphenicol	2		13
	Amphenicols - Chloramphenicol	highest		64
	Amphenicols - Chloramphenicol	n		0
	Amphenicols - Chloramphenicol	N		16
	Number of isolates available in the laboratory			16
	Amphenicols - Chloramphenicol	lowest		2

Date of Modification	Row name	Column name	Old value	New value
2012-01-10	Isolates out of a monitoring program (yes/no)			yes
	Amphenicols - Chloramphenicol	4		3

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

Test Method Used		Standard methods used for testing		
Broth dilution				
			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Quinolones	Nalidixic acid		32	
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
	Neomycin		2	
Macrolides	Erythromycin		16	
Penicillins	Ampicillin		16	
	Amoxicillin / Clavulanic acid		16	
Amphenicols	Chloramphenicol		16	
Polymyxins	Colistin		32	

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

Test Method Used		Standard methods used for testing		
Broth dilution				

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Quinolones	Nalidixic acid		32	
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
	Neomycin		2	
Macrolides	Erythromycin		16	
Penicillins	Ampicillin		16	
	Amoxicillin / Clavulanic acid		16	
Amphenicols	Chloramphenicol		16	
Polymyxins	Colistin		32	

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

Test Method Used		Standard methods used for testing		
Broth dilution				

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Quinolones	Nalidixic acid		32	
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
	Neomycin		2	
Macrolides	Erythromycin		16	
Penicillins	Ampicillin		16	
	Amoxicillin / Clavulanic acid		16	
Amphenicols	Chloramphenicol		16	
Polymyxins	Colistin		32	

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

Test Method Used		Standard methods used for testing		
Broth dilution				

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Quinolones	Nalidixic acid		32	
Aminoglycosides	Neomycin		2	
Penicillins	Ampicillin		16	
	Amoxicillin / Clavulanic acid		16	
Amphenicols	Chloramphenicol		16	
Polymyxins	Colistin		32	

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

Test Method Used	Standard methods used for testing
Broth dilution	

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Quinolones	Nalidixic acid		16	
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Macrolides	Erythromycin		4	
Penicillins	Ampicillin		8	

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

Test Method Used	Standard methods used for testing
Broth dilution	

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Quinolones	Nalidixic acid		16	
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Macrolides	Erythromycin		4	
Penicillins	Ampicillin		8	

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

Test Method Used		Standard methods used for testing		
Broth dilution				

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

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

Test Method Used		Standard methods used for testing		
Broth dilution				

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Quinolones	Nalidixic acid		16	
Penicillins	Ampicillin		8	

2.3 LISTERIOSIS

2.3.1 General evaluation of the national situation

A. Listeriosis general evaluation

History of the disease and/or infection in the country

Listeriosis can be regarded as a relatively rare infectious disease in Austria with an annual incidence between 0.1 and 0.25 cases per 100,000 inhabitants in the years 1996 to 2007. In 2008 a total of 31 culturally verified human cases of listeriosis were recorded for Austria (incidence 0.38 per 100,000 inhabitants), four of them were associated with pregnancy. In 2009 a further increase had to be assessed, 46 cases what corresponds to an incidence of 0.6. Two cases were associated with pregnancy. In 2010, a reduction to 34 cases (incidence of 0.41) could be observed. The incidences are similar to those of most other western European countries (0.2-0.9). Lethality reduced in 2010 to 12% (4 cases) compared with 26% in 2009. This (usually) high rate and the sometimes severe permanent disabilities demand every effort to ascertain potential food-associated outbreaks as early as possible.

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

See History of the disease.

The number of Listeriosis cases presented in this report reflects the number of cases reported to the Epidemiological Reporting System and the National Reference Laboratory for Listeriosis.

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

Listeriosis is a rare disease, but not a rare bacterium, which means that a systemic disease develops only under certain particular predispositions, including pregnancy and immunosuppression.

Although dairy products and salmon are likely candidates, the source of an infection often remains unclear. Ready-to-eat meat and meat products harbour listeria in 0–7 % and ready-to-eat smoked fish in approx. 10 - 17 %.

Recent actions taken to control the zoonoses

A monthly report is sent to the Ministry of Health by the National Reference Center, whereas outbreaks are reported immediately.

Restrictions tightened to sell unpasteurised milk in remote areas (Alps).

Suggestions to the Community for the actions to be taken

More widespread information for pregnant and immunocompromised persons should be provided.

Additional information

If zoonotic agents, which are listed in the national Zoonoses Act, are isolated from human specimen, food or animals the laboratories are obliged to send these strains to the respective national reference lab for typing and comparative analysis.

2.3.2 Listeria in foodstuffs

A. L. monocytogenes in Food Meat, mixed meat - meat products - fermented sausages - at retail - Surveillance - official controls - objective sampling (campaign A-802-10)

Monitoring system

Sampling strategy

Random sampling is done according to the sampling plan of the Ministry of Health. Samples are taken at retail outlets by competent authorities.

Frequency of the sampling

At retail

Sampling takes place during the months November – December

Type of specimen taken

At retail

Mixed meat products – fermented sausages

Methods of sampling (description of sampling techniques)

At retail

Sample weight: 25g

Definition of positive finding

At retail

Detection of Listeria in 25g

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs

Results of the investigation

66 samples tested for Listeria monocytogenes: 3 samples positive in 25 g (all <10 CFU/g), 1 x L. innocua, 1 x L. welshimeri

Additional information

Samples were also tested for VTEC and Salmonella spp.

B. L. monocytogenes in Food Meat, mixed meat - meat products - cooked, ready-to-eat - chilled - at retail - Surveillance - official controls - objective sampling (campaign A-801-10)

Monitoring system

Sampling strategy

Random sampling is done according to the sampling plan of the Ministry of Health. Samples are taken at retail outlets by competent authorities.

Frequency of the sampling

At retail

Sampling takes place during the months August - October

Type of specimen taken

At retail

Mixed meat products cooked – ready-to-eat chilled

Methods of sampling (description of sampling techniques)

At retail

Sample weight: 25g

Definition of positive finding

At retail

Detection of *Listeria* in 25g

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs

Results of the investigation

99 samples tested for *Listeria*: 3 samples positive in 25 g (all <10 CFU/g), 1 x *L. innocua*

Additional information

Samples were also tested for *Salmonella* spp.

C. Listeria spp., unspecified in Food All foodstuffs

Monitoring system

Sampling strategy

Foodstuff was sampled according to the ordinance „Revisions- und Probenplan für das Jahr 2009 gemäß §31 LMSVG; Richtlinien über die Vollziehung der Überwachung des Verkehrs mit den durch das LMSVG erfassten Waren; Berichtsschema 2008“ (BMGFJ – 75500/0332-IV/B/7/2008) from the Federal Ministry of Health. This “Revisions- und Probenplan” is part of the multi-annual national control plan (2007-2010) according to Art. 41 ff of Regulation (EC) No 882/2004.

The Revision-Plan determines the number of food enterprises e.g. restaurants, dairies, retail outlets etc. that have to be sampled and tested randomly according to the number of food enterprises per province. Every business within Austria has to be sampled at least once per year. The inspection can comprise sampling, hygienic investigations of the employees, checking of HACCP concepts, control of manufacturing processes etc.

In 2010, approximately 35,000 samples were planned to be tested in Austria. About 75 % of these are planned samples (surveillance) and only these numbers are used in this report (data from suspect samples are not shown). These planned samples either consist of samples of the yearly sampling plan which determines the number of samples of each food category that have to be investigated randomly, e.g. raw meat (fresh or frozen); sausages; cheeses; milk; preserved food etc. There are different sampling stages where food samples are taken: e.g. from retail, processing plant, primary production.

In addition there is a monitoring plan for food items (40-45 campaigns per year). In the course of these programs food items of special interest for defined parameters – amongst others zoonotic agents – are investigated. The sampling takes place during a fixed period of time in order to gain in-dept information. In 2010, seven food campaign programs were conducted throughout Austria dealing with zoonotic agents (Schwerpunktprogramm 2010 BMG-75500/0246-II/B/7/2009). Details and results of these campaigns can be found in the respective chapters.

Diagnostic/analytical methods used

At retail

Other: _Qualitative detection of *Listeria* spp. is performed according to ISO 11290: Part 1 (1996).

Quantification of *Listeria* spp. content in food is conducted either according to ISO 11290: Part 2 (1998) with following modifications: *Listeria monocytogenes* are confirmed on Ottaviani Agosti Agar, ALOA Agar, RapidLmono agar, using Gram stain, motility testing and catalase production or by the Api *Listeria* test or Vidas LMO II.____

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs; a folder was created by the AGES in cooperation with the Austrian Medical Chamber: Pregnancy – infections transmitted via food (Schwangerschaft – Infektionen durch Nahrungsmittel, http://www.ages.at/uploads/media/AGES_Folder_Schwangerschaft_Web.pdf). This folder was distributed to all gynaecologists. The folder contains advices to prevent food-borne infections during pregnancy, including listeriosis, toxoplasmosis, campylobacteriosis and salmonellosis as well as mycotoxicosis.

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

Listeria monocytogenes was not detected in samples of pasteurised cows' milk (0/51). In all the 30 samples of raw cows' milk 1 sample was found positive for *L. monocytogenes* (3%), 1-time *L. monocytogenes* presence in 25g. Also in 7 of 355 ready-to-eat pig meat product samples (2%) *L.*

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monocytogenes was found and 15 out of 256 samples (6%) of meat products from bovine animals, cooked, ready-to-eat chilled were found positive in 25g.

In 3 out of 66 samples (5%) of mixed meat products, fermented sausages (campaign A-802-10) *L. monocytogenes* was found (3-times <100 cfu/g), additionally one-time *L. innocua* and *L. welshimeri* respectively.

11.9 % of all samples from fishery products (54/454) revealed a contamination with *L. monocytogenes* (2 of them <100 cfu/g, 4 of them >100 cfu/g). 2 of 14 raw fish samples (14.3%) were positive for *L. monocytogenes*, both times *L. monocytogenes* was qualitatively found in 25g.

Additional information

The public is informed about the results via the annual zoonoses brochure.

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses made from cows' milk - curd - at farm - Surveillance - official controls - objective sampling	*	Single	25 g	2	0	2	0	2	0	0
Cheeses made from cows' milk - curd - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25 g	17	0	16	0	11	0	0
Cheeses made from cows' milk - curd - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25 g	10	0	10	0	2	0	0
Cheeses made from cows' milk - fresh - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25 g	11	0	11	0	4	0	0
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25 g	6	0	6	0	4	0	0
Cheeses made from cows' milk - fresh - made from pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25 g	2	0	2	0	1	0	0
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm - Surveillance - official controls - objective sampling	*	Single	25 g	1	0	1	0	1	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25 g	3	0	3	0	2	0	0
Cheeses made from cows' milk - hard - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	25g	20	0	20	0	0	0	0
Cheeses made from cows' milk - hard - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	0	0	0
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	3	0	0
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	18	0	18	0	3	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	53	1	53	1	46	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	25 g	11	0	11	0	3	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at catering - Surveillance - official controls - objective sampling	*	Single	25 g	3	1	3	1	3	1	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25 g	102	1	102	1	44	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance - official controls - objective sampling	*	Single	25 g	75	0	73	0	43	0	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25 g	39	0	38	0	33	0	0
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at catering - Surveillance - official controls - objective sampling	*	Single	25 g	1	0	1	0	1	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25 g	16	0	16	0	7	0	0
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25 g	407	3	407	3	386	0	3
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25 g	3	0	3	0	3	0	0
Cheeses made from cows' milk - unspecified - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	1	1	1	1	0	0
Cheeses made from cows' milk - unspecified - at processing plant - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	0	0	0
Cheeses made from cows' milk - unspecified - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	6	0	5	0	6	0	0
Cheeses made from cows' milk - unspecified - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	7	1	7	1	7	1	0
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0	7	0	2	0	0
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	17	0	16	0	16	0	0
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	5	0	5	0	5	0	0
Cheeses made from goats' milk - fresh - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses made from goats' milk - fresh - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Cheeses made from goats' milk - fresh - made from pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses made from goats' milk - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses made from goats' milk - soft and semi-soft - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses made from goats' milk - soft and semi-soft - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	8	0	8	0	8	0	0
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	9	0	9	0	9	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	6	0	6	0	6	0	0
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	4	0	0
Cheeses made from sheep's milk - fresh - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses made from sheep's milk - unspecified - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses made from sheep's milk - unspecified - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Cheeses made from sheep's milk - unspecified - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	6	0	6	0	6	0	0
Cheeses made from sheep's milk - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0	7	0	7	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses, made from mixed milk from cows, sheep and/or goats - soft and semi-soft - made from pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	12	0	12	0	1	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	11	0	11	0	4	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	1	0	0
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	9	0	9	0	5	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses, made from unspecified milk or other animal milk - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses, made from unspecified milk or other animal milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Cheeses, made from unspecified milk or other animal milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Cheeses, made from unspecified milk or other animal milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Cheeses, made from unspecified milk or other animal milk - curd - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Cheeses, made from unspecified milk or other animal milk - curd - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	3	0	0
Cheeses, made from unspecified milk or other animal milk - fresh - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	6	0	6	0	6	0	0
Cheeses, made from unspecified milk or other animal milk - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0	3	0	3	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses, made from unspecified milk or other animal milk - soft and semi-soft - at retail - Survey - EU baseline survey (Campaign A-800-10)	AGES LMU	Single	25g	63	0	63	0	63	0	0
Cheeses, made from unspecified milk or other animal milk - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Dairy products (excluding cheeses) - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	0	0	0
Dairy products (excluding cheeses) - butter - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	1	2	1	2	0	0
Dairy products (excluding cheeses) - butter - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	11	0	11	0	7	0	0
Dairy products (excluding cheeses) - butter - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	31	0	31	0	10	0	0
Dairy products (excluding cheeses) - cream - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	54	0	54	0	14	0	0
Dairy products (excluding cheeses) - dairy desserts - chilled - Surveillance - official controls - objective sampling	*	Single	25g	23	0	23	0	0	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Dairy products (excluding cheeses) - dairy products, not specified - at catering - Surveillance - official controls - objective sampling	*	Single	25g	15	0	15	0	15	0	0
Dairy products (excluding cheeses) - dairy products, not specified - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Dairy products (excluding cheeses) - dairy products, not specified - at processing plant - Surveillance - official controls - objective sampling	*	Single	25g	23	0	23	0	18	0	0
Dairy products (excluding cheeses) - dairy products, not specified - at retail - Surveillance - official controls - objective sampling	*	Single	25g	12	0	12	0	12	0	0
Dairy products (excluding cheeses) - fermented dairy products - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Dairy products (excluding cheeses) - fermented dairy products - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0	3	0	1	0	0
Dairy products (excluding cheeses) - fermented dairy products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	1	3	1	2	0	0
Dairy products (excluding cheeses) - ice-cream - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Dairy products (excluding cheeses) - ice-cream - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	3	0	0
Dairy products (excluding cheeses) - ice-cream - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0	3	0	0	0	0
Dairy products (excluding cheeses) - probiotic drinks - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Dairy products (excluding cheeses) - sour milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	0	0	0
Dairy products (excluding cheeses) - yoghurt - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	9	0	9	0	0	0	0
Milk from other animal species or unspecified - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Milk from other animal species or unspecified - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Milk from other animal species or unspecified - pasteurised - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Milk from other animal species or unspecified - pasteurised - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	0	0	0
Milk from other animal species or unspecified - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Milk, cows' - pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	28	0	28	0	11	0	0
Milk, cows' - pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	22	0	22	0	6	0	0
Milk, cows' - pasteurised milk - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Milk, cows' - raw - at catering - Surveillance - official controls - objective sampling	*	Single	25g	3	0	3	0	3	0	0
Milk, cows' - raw - at farm - Surveillance - official controls - objective sampling	*	Single	25g	8	0	8	0	8	0	0
Milk, cows' - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Milk, cows' - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Milk, cows' - raw - intended for direct human consumption - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	1	1	1	1	0	0
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	8	0	8	0	7	0	0
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	4	0	0
Milk, goats' - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Milk, goats' - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Milk, sheep's - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Milk, sheep's - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0

Footnote:
* All Official Food Institutes

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Bakery products - cakes - at catering - Surveillance - official controls - objective sampling	*	Single	25g	8	0	8	0	8	0	0
Bakery products - cakes - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	4	0	0
Bakery products - cakes - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	51	1	51	1	39	0	0
Bakery products - cakes - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	5	0	5	0	5	0	0
Bakery products - cakes - containing heat-treated cream - at catering - Surveillance - official controls - objective sampling	*	Single	25g	7	0	7	0	0	0	0
Bakery products - desserts - containing raw eggs - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	0	0	0
Bakery products - pastry - with egg filling - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Bakery products - pastry - at catering - Surveillance - official controls - objective sampling	*	Single	25g	11	0	11	0	11	0	0
Bakery products - pastry - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	14	0	14	0	13	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Bakery products - pastry - at retail - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	1	0	0
Bakery products - pastry - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	64	0	64	0	50	0	0
Crustaceans - at retail - Surveillance - official controls - objective sampling	*	Single	25g	2	0	1	0	2	0	0
Crustaceans - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	5	0	5	0	0	0	0
Fish - raw - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	1	2	1	2	0	0
Fish - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Fish - raw - at retail - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Fish - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	1	3	1	3	0	0
Fish - raw - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	3	0	3	0	3	0	0
Fish - raw - chilled - at catering - Surveillance - official controls - objective sampling	*	Single	25g	4	0	1	0	3	0	0
Fishery products, unspecified - at catering - Surveillance - official controls - objective sampling	*	Single	25g	5	1	5	1	5	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Fishery products, unspecified - at processing plant - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	4	0	0
Fishery products, unspecified - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	18	9	18	9	18	0	0
Fishery products, unspecified - at retail - Surveillance - official controls - objective sampling	*	Single	25g	14	2	14	2	14	1	1
Fishery products, unspecified - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	40	3	40	3	32	0	2
Fishery products, unspecified - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	89	12	86	12	88	1	1
Fishery products, unspecified - ready-to-eat - at retail - Survey - EU baseline survey (after sample collection; Campaign A-800-10)	AGES LMU	Single	25g	61	2	61	2	61	0	0
Fishery products, unspecified - ready-to-eat - at retail - Survey - EU baseline survey (at the end of shelf-life; Campaign A-800-10)	AGES LMU	Single	25g	61	0	61	0	61	0	0
Fishery products, unspecified - ready-to-eat - chilled - at catering - Surveillance - official controls - objective sampling	*	Single	25g	17	1	17	1	1	0	0
Fishery products, unspecified - seafood pate - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	0	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Fishery products, unspecified - smoked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	20	1	20	1	20	0	0
Fishery products, unspecified - smoked - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	123	23	122	23	118	0	0
Fruits - products - fruit purée - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0	3	0	0	0	0
Infant formula - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Juice - fruit juice - unpasteurised - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Meat from bovine animals - meat products - cooked, ready-to-eat - chilled - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	256	15	256	15	255	0	0
Meat from broilers (<i>Gallus gallus</i>) - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0	3	0	3	0	0
Meat from deer (venison) - meat preparation - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Meat from deer (venison) - meat preparation - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Meat from deer (venison) - meat products - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Meat from deer (venison) - meat products - at game handling establishment - Surveillance - official controls - objective sampling	*	Single	25g	3	0	3	0	3	0	0
Meat from deer (venison) - meat products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	2	0	0
Meat from other animal species or not specified - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Meat from other animal species or not specified - meat products - heat treated, ready to eat - at retail - Survey - EU baseline survey (campaign A-800-10)	AGES LMU	Single	25g	58	1	58	1	58	1	0
Meat from other animal species or not specified - meat products - raw and intended to be eaten raw - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Meat from other animal species or not specified - meat products - raw and intended to be eaten raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	18	3	18	3	18	0	0
Meat from pig - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Meat from pig - fresh - chilled - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Meat from pig - meat products - cooked ham - sliced - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Meat from pig - meat products - cooked, ready-to-eat - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Meat from pig - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Meat from pig - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	348	7	348	7	347	0	0
Meat from pig - meat products - cooked, ready-to-eat - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	4	0	2	0	4	0	0
Meat from pig - meat products - pate - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	0	0	0
Meat from pig - meat products - raw and intended to be eaten raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	4	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Meat from pig - meat products - raw and intended to be eaten raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	6	0	6	0	6	0	0
Meat from pig - meat products - raw and intended to be eaten raw - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	1	2	1	2	0	0
Meat from pig - meat products - raw ham - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	5	0	5	0	0	0	0
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0	5	0	6	0	0
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	1	0	0
Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	4	1	4	1	3	0	0
Meat from turkey - meat products - cooked, ready-to-eat - chilled - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	0	0	0
Meat, mixed meat - meat preparation - intended to be eaten cooked - chilled - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	0	0	0
Meat, mixed meat - meat products - cooked, ready-to-eat - chilled - at retail - Surveillance - official controls - objective sampling (campaign A-801-10)		Single	25g	99	3	99	3	99	1	0
Meat, mixed meat - meat products - fermented sausages - at retail - Surveillance - official controls - objective sampling (campaign A-802-10)		Single	25g	66	3	66	3	66	0	0
Meat, mixed meat - meat products - fermented sausages - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	13	0	13	0	0	0	0
Meat, mixed meat - minced meat - intended to be eaten cooked - chilled - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	1	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten raw - at retail - Surveillance - official controls - objective sampling	*	Single	25g	13	0	13	0	2	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten raw - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	0	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at catering - Surveillance - official controls - objective sampling	*	Single	25g	8	1	8	1	8	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	12	1	12	1	9	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - Surveillance - official controls - objective sampling	*	Single	25g	25	1	23	1	25	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	11	0	11	0	0	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at catering - Surveillance - official controls - objective sampling	*	Single	25g	3	0	3	0	3	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	20	3	20	3	16	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - Surveillance - official controls - objective sampling	*	Single	25g	39	2	39	2	33	0	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	8	0	8	0	7	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Other food - at catering - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4	0	4	0	0
Other food - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Other food - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	1	0	0
Other food - at retail - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Other food - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0	6	0	1	0	0
Other food - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Other processed food products and prepared dishes - at catering - Surveillance - official controls - objective sampling	*	Single	25g	12	0	11	0	11	0	0
Other processed food products and prepared dishes - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	5	0	5	0	5	0	0
Other processed food products and prepared dishes - at retail - Surveillance - official controls - objective sampling	*	Single	25g	11	0	11	0	8	0	0
Other processed food products and prepared dishes - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	1	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Other processed food products and prepared dishes - ices and similar frozen desserts - Surveillance - official controls - objective sampling	*	Single	25g	28	0	28	0	0	0	0
Other processed food products and prepared dishes - noodles - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	0	0	0
Other processed food products and prepared dishes - pasta - at catering - Surveillance - official controls - objective sampling	*	Single	25g	5	0	5	0	0	0	0
Other processed food products and prepared dishes - sushi - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0	0	0	2	0	0
Other processed food products and prepared dishes - unspecified - non-ready-to-eat foods - chilled - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0	3	0	0	0	0
Ready-to-eat salads - at catering - Surveillance - official controls - objective sampling	*	Single	25g	21	0	21	0	21	0	0
Ready-to-eat salads - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0	3	0	2	0	0
Ready-to-eat salads - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	5	0	5	0	3	0	0
Ready-to-eat salads - containing mayonnaise - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	11	0	11	0	0	0	0

Table *Listeria monocytogenes* in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>L. monocytogenes</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Sauce and dressings - mayonnaise - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	6	0	5	0	2	0	0
Vegetables - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Vegetables - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	9	0	9	0	9	0	0
Vegetables - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	8	0	8	0	8	0	0
Vegetables - pre-cut - ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	11	0	6	0	5	0	0
Vegetables - products - at retail - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0
Vegetables - products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2	0	2	0	0
Vegetables - products - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1	0	1	0	0

Footnote:

* All Official Food Institutes

2.3.3 Listeria in animals

A. Listeria spp., unspecified in Animals

Monitoring system

Sampling strategy

There is no active surveillance system and detection of cases is based on clinical observations.

Frequency of the sampling

When there is a suspected case of invasive listeriosis.

Case definition

A case may be defined with positive histopathology and/or positive bacteriology. The animal is the epidemiological unit.

Diagnostic/analytical methods used

The diagnostic methods used include histopathology and bacteriology.

Measures in case of the positive findings or single cases

None

Notification system in place

No notification system of listeriosis in animal species available at this time.

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

No relevance because products of sick animals are not used for human consumption.

Table Listeria in animals

	Source of information	Sampling unit	Units tested	Total units positive for Listeria	L. monocytogenes	Listeria spp., unspecified	L. ivanovii
Cattle (bovine animals) - at farm - animal sample - blood - Clinical investigations	AGES IVET	Animal	1	0	0	0	0
Cattle (bovine animals) - at farm - animal sample - faeces - Clinical investigations	AGES IVET	Animal	2	1	1	0	0
Cattle (bovine animals) - at farm - animal sample - organ/tissue - Clinical investigations	AGES IVET	Animal	25	18	17	1	0
Cattle (bovine animals) - at farm - feed sample - Clinical investigations	AGES IVET	Animal	1	0	0	0	0
Deer - at farm - animal sample - organ/tissue - Clinical investigations	AGES IVET	Animal	1	0	0	0	0
Goats - at farm - animal sample - organ/tissue - Clinical investigations	AGES IVET	Animal	10	5	5	0	0
Hares - at farm - animal sample - organ/tissue - Clinical investigations	AGES IVET	Animal	2	2	2	0	0
Pigs - at farm - animal sample - organ/tissue - Clinical investigations	AGES IVET	Animal	8	0	0	0	0
Sheep - at farm - animal sample - organ/tissue - Clinical investigations	AGES IVET	Animal	19	11	9	1	1
Sheep - at farm - feed sample - Clinical investigations	AGES IVET	Animal	1	0	0	0	0

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

A. Verotoxigenic Escherichia coli infections general evaluation

History of the disease and/or infection in the country

In 2010, 730 samples were investigated at the National Reference Centre for Escherichia coli including verotoxin producing E. coli. 456 human, 36 food and five veterinary samples and 145 isolates from the National Zoonosis Monitoring in animals 2010" were analyzed. From the 36 food samples 30 isolates were gained. From the human samples 88 verotoxin producing isolates could be confirmed, including 31 verotoxin producing E. coli (VTEC) and 57 enterohemorrhagic E. coli (EHEC = VTEC plus eae-gene). The ratio of human EHEC O157 (11 isolates) to VTEC/EHEC non O157 (77 isolates) differed from that of previous years (e.g. in 2009: 30 EHEC O157 versus 63 VTEC/EHEC non O157). A clear shift towards VTEC/EHEC non O157 can be seen. In 2010 EHEC O26 was confirmed in 16 cases, and for the first time it was more prevalent than serotype O157. Eleven cases of hemolytic uremic syndrome (HUS) were diagnosed as post infectious complication. The incidence of HUS in children (< 14 years) due to VTEC/EHEC was 0.53 HUS cases per 100.000 children in 2010. There were eight smaller family outbreaks and one province-crossing foodborne outbreak, with seven cases due to VTEC O174:H2.

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

See History of the disease

The number of VTEC cases presented in this report reflects the number of cases reported to the Epidemiological Reporting System and the National Reference Laboratory for VTEC.

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

The prevalence of verotoxin producing E. coli isolated from cattle increased to 29 % and from sheep to 65 %, but we hypothesize that this is due to a higher sensitivity of the new ELISA, the sampling material (rectum-anal swabs) and improvement in the VTEC isolation techniques (see chapter Pathogenic Escherichia coli in animals). Concerning the 5 most important VTEC serotypes for humans (O157, O26, O103, O111 and O145), only O157 (2 x) and O103 (2 x) were isolated from cattle.

According to the EFSA definition of VTEC ("a VTEC positive sample is considered to be any sample, from which at least one E. coli strain containing vtx and eae has been isolated. Both gene-groups must be present in the isolated E. coli strain, for a sample to be positive") only in 8 samples VTEC were isolated from cattle (6 %) and none from sheep (0 %).

The relevance of findings of VTEC in faeces seems to be low because VTEC are found only in a very low prevalence on meat samples from bovines and sheep.

Recent actions taken to control the zoonoses

An Austrian wide monitoring program on the trends of VTEC prevalence in bovine animals and sheep was implemented according to the directive 2003/99/EC of the European Parliament and the Council of 17 November 2003 in the National Orders. The sampling was carried out throughout 2010 and follow up programs will be implemented in the forthcoming years. Also in food products of wild animals surveillance programs were conducted (see Campaign A-802-10 and A-803-10)

Suggestions to the Community for the actions to be taken

Increased awareness and information should be made available for parents, paediatricians and general practitioners in regard to food safety and the prevention of infection.

Additional information

If zoonotic agents, which are listed in the national Zoonoses Act, are isolated from human specimen, food or animals the laboratories are obliged to send these strains to the respective national reference lab for typing and comparative analysis.

2.4.2 Escherichia coli, pathogenic in foodstuffs

A. E.coli, pathogenic, unspecified in Food

Monitoring system

Sampling strategy

Foodstuff was sampled according to the ordinance „Revisions- und Probenplan für das Jahr 2009 gemäß §31 LMSVG; Richtlinien über die Vollziehung der Überwachung des Verkehrs mit den durch das LMSVG erfassten Waren; Berichtsschema 2008“ (BMGFJ – 75500/0332-IV/B/7/2008) from the Federal Ministry of Health. This “Revisions- und Probenplan” is part of the multi-annual national control plan (2007-2010) according to Art. 41 ff of Regulation (EC) No 882/2004.

The Revision-Plan determines the number of food enterprises e.g. restaurants, dairies, retail outlets etc. that have to be sampled and tested randomly according to the number of food enterprises per province. Every business within Austria has to be sampled at least once per year. The inspection can comprise sampling, hygienic investigations of the employees, checking of HACCP concepts, control of manufacturing processes etc.

In 2010, approximately 35,000 samples were planned to be tested in Austria. About 75 % of these are planned samples (surveillance) and only these numbers are used in this report (data from suspect samples are not shown). These planned samples either consist of samples of the yearly sampling plan which determines the number of samples of each food category that have to be investigated randomly, e.g. raw meat (fresh or frozen); sausages; cheeses; milk; preserved food etc. There are different sampling stages where food samples are taken: e.g. from retail, processing plant, primary production.

In addition there is a monitoring plan for food items (40-45 campaigns per year). In the course of these programs food items of special interest for defined parameters – amongst others zoonotic agents – are investigated. The sampling takes place during a fixed period of time in order to gain in-dept information. In 2010, seven food campaign programs were conducted throughout Austria dealing with zoonotic agents (Schwerpunktprogramm 2010 BMG-75500/0246-II/B/7/2009). Details and results of these campaigns can be found in the respective chapters.

Diagnostic/analytical methods used

25 g of the sample is preenriched using modified tryptic soy broth containing novobiocin (mTSB + n) for 24h at 37 °C. Subsequently about 1 microliter is plated on trypton-bile-glucuronid (TBX) for 24h at 37 °C. 5 colonies per plate are identified as E. coli (indole positive, glucuronidase positive or using enterotube. E. coli are tested in a multiplex PCR for stx1 and stx2 (Brian et al, 1992. Polymerase chain reaction for diagnosis of enterohemorrhagic Escherichia coli infection and haemolytic-uremic syndrome. J Clin Microbiol 30, 1801-06).

The typing for virulence factors as the eae-gene and serotyping is carried out by the National Reference Laboratory for VTEC in the AGES Institute for Medical Microbiology and Hygiene (IMED) in Graz.

Additional information

The public is informed about the results via the annual zoonoses brochure.

B. Escherichia coli, pathogenic in Food Meat, mixed meat - meat products - fermented sausages - at retail - Surveillance - official controls - objective sampling (campaign A-802-10)

Monitoring system

Sampling strategy

Random sampling is done according to the sampling plan of the Ministry of Health. Samples are taken at retail outlets by competent authorities.

Frequency of the sampling

Investigation period: November – December

Type of specimen taken

Other: Mixed meat products – fermented sausages

Methods of sampling (description of sampling techniques)

Sample weight: 25g

Definition of positive finding

Detection of VTEC in 25g

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs

Results of the investigation

66 samples tested, VTEC: 1-times positive (non-O157)

Additional information

Samples were also tested for Salmonella spp. and Listeria monocytogenes

C. Verotoxigenic E. coli (VTEC) in Food Meat from farmed game- land mammals - fresh - chilled - at retail - Surveillance - official controls - objective sampling (A-803-10)

Monitoring system

Sampling strategy

Random sampling is done according to the sampling plan of the Ministry of Health. Samples are taken at retail outlets by competent authorities.

Frequency of the sampling

Investigation period: September - November

Type of specimen taken

Other: Meat from farmed game – land mammals fresh chilled

Methods of sampling (description of sampling techniques)

Sample weight: 25g

Definition of positive finding

Detection of VTEC in 25g

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs

Results of the investigation

30 samples tested, VTEC: 2-times positive (ONT:H30, Orough-H28)

Additional information

Samples were also tested for Salmonella spp., Campylobacter and Clostridium difficile

Table VT E. coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Cheeses made from cows' milk - curd - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	1g	1	0			
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	1g	1	0			
Cheeses made from goats' milk - unspecified - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	1g	1	0			
Cheeses made from sheep's milk - unspecified - made from pasteurised milk - at processing plant - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	1g	1	0			

Table VT E. coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from pasteurised milk - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	1g	1	0			
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	1g	1	0			
Cheeses, made from unspecified milk or other animal milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Fishery products, unspecified - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat from bovine animals - fresh - at catering - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Meat from bovine animals - fresh - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat from bovine animals - meat preparation - intended to be eaten cooked - at catering - Surveillance - official controls - objective sampling	*	Single	25g	4	0			

Table VT E. coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Meat from bovine animals - minced meat - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	8	0			
Meat from deer (venison) - meat preparation - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat from deer (venison) - meat products - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat from deer (venison) - meat products - at game handling establishment - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Meat from deer (venison) - meat products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0			

Table VT E. coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat from farmed game- land mammals - fresh - chilled - at retail - Surveillance - official controls - objective sampling (campaign A-803-10)		Single	25g	30	0			
Meat from other animal species or not specified - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Meat from pig - meat preparation - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat from pig - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Meat from sheep - fresh - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat from sheep - meat preparation - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0			

Table VT E. coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat from sheep - meat preparation - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat, mixed meat - meat products - fermented sausages - at retail - Surveillance - official controls - objective sampling (campaign A-802-10)		Single	25g	66	0			
Meat, mixed meat - minced meat - intended to be eaten cooked - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	5	0			
Meat, mixed meat - minced meat - intended to be eaten cooked - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	33	0			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - at catering - Surveillance - official controls - objective sampling	*	Single	25g	4	0			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	8	0			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat preparation - intended to be eaten raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			

Table VT E. coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	16	0			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	29	0			

Table VT E. coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Milk from other animal species or unspecified - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Milk, cows' - raw - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, cows' - raw - at farm - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Milk, cows' - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Milk, cows' - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	0			
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	0			

Table VT E. coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0			
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at retail - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0			
Milk, goats' - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, goats' - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, sheep's - raw - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Milk, sheep's - raw - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0			
Other processed food products and prepared dishes - at catering - Surveillance - official controls - objective sampling	*	Single	25g	3	0			

Table VT E. coli in food

Footnote:

* All Official Food Institutes

2.4.3 Escherichia coli, pathogenic in animals

A. Verotoxigenic Escherichia coli in cattle (bovine animals)

Monitoring system

Sampling strategy

The monitoring program on the prevalence of VTEC in slaughtered cattle was continued. The sampling was stratified based on the number of processed animals per abattoir in Austria. The date of sampling was randomized over the year 2010. Sampling was performed in the 37 abattoirs which processed more than 80 % of Austria's cattle in 2009.

Frequency of the sampling

Animals at slaughter (herd based approach)

Other: The sampling was distributed randomly over the period of the study from January to December 2010.

Type of specimen taken

Animals at slaughter (herd based approach)

Other: A part of the intestine containing rectum and anus.

Methods of sampling (description of sampling techniques)

Animals at slaughter (herd based approach)

The sampling is performed by qualified veterinarians who carry out the post – mortem inspection. At time of evisceration, a part of rectum and anus was sampled. After cooling down to 4 °C, the sample had been sent to the AGES Institute of Veterinary Diseases Control (IVET) in Graz the same day, in a hobbox or polystyrene box along with cooling packs. In the laboratory, a swab from the rectum-anal mucosa was incubated in a broth.

Case definition

Animals at slaughter (herd based approach)

An animal is considered to be infected with VTEC following the isolation of VTEC (verotoxin producing *E. coli* irrespective of intimin) from its recto-anal mucosa.

Diagnostic/analytical methods used

Animals at slaughter (herd based approach)

Other: In a first step the samples were screened for presence of verotoxins by ELISA, secondly the positive samples were processed for VTEC isolation.

At first the swab was pre-enriched using modified tryptic soy broth containing novobiocin (mTSB + n) for 5 hours at 37 °C on a shaker. Then 1 ml of each pre-enrichment was inoculated into mTSB + n containing mitomycin C for 18-20 hours at 37 °C on a shaker too. The process was followed by testing the enrichment for the occurrence of verotoxin in an enzyme linked immuno sorbent assay (ELISA, Premier™ EHEC). Positive enrichments were plated on MacConkey (MAC) -, on cefixime tellurite sorbitol MAC (CTSMAC) - and on enterohemolysin agar and incubated for 24 hours at 37 °C. 2-4 colonies from each of the plates were subcultured on MAC as well as on CTSMAC. Afterwards the genomes of subcultured *E. coli* were investigated in a real time PCR for harboring the genes for Verotoxin 1, Verotoxin 2, Intimin and Enterohemolysin (Reischl U. et al. 2002: Real-Time Fluorescence PCR Assays for Detection and Characterization of Shiga Toxin, Intimin and Enterohemolysin Genes from Shiga Toxin-Producing *Escherichia coli*. *Journ of Clin Microb*, 40, p 2555-2565).

The serotyping was carried out by the National Reference Center for VTEC in the AGES Institute for Medical Microbiology and Hygiene (IMED) in Graz.

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Vaccination policy

No vaccination

Other preventive measures than vaccination in place

No vaccination

Control program/mechanisms

Suggestions to the Community for the actions to be taken

Harmonization of methods with regard to all possible VTEC serotypes.

Measures in case of the positive findings or single cases

No measures foreseen

Notification system in place

No notification system in place at this time.

Results of the investigation

Verotoxin was detected in 64 of 127 samples, VTEC (verotoxin producing E. coli) could be isolated from 37 verotoxin-positive samples, showing a prevalence of VTEC of 29 %; 2 x O157 (1 x VTEC O157:H- - eae positiv vtx1 positiv vtx2 positiv, 1 x VTEC O157:H7 - eae positiv vtx1 negativ vtx2 positiv. In several samples more than one VTEC serotype was identified.

According to the EFSA definition of VTEC ("a VTEC positive sample is considered to be any sample, from which at least one E. coli strain containing vtx and eae has been isolated. Both gene-groups must be present in the isolated E. coli strain, for a sample to be positive") only in 8 samples VTEC were isolated, showing a prevalence of 6 %.

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

The prevalence of isolated VTEC from bovine remained high; we hypothesize that this is due to a high sensitivity of the ELISA, the sampling material (recto-anal swabs) and the improvement in the VTEC isolation techniques especially the use of the enterohemolysin-agar.

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

The relevance of findings of VTEC in faeces seems to be low because VTEC are found only in a very low prevalence on meat samples from bovines.

Additional information

The public is informed about the results via the annual zoonoses brochure.

B. Verotoxigenic E. coli (VTEC) in Animals Sheep - at farm

Monitoring system

Sampling strategy

The monitoring in 2010 was directed towards sheep at farms. 112 sheep (out of 112 different farms) had to be tested, calculated on a population of sheep of 350,000 in Austria in 2009. The sampling had been stratified on the number and size of sheep holdings in Austrian provinces.

Frequency of the sampling

Animals at farm

Other: The sampling was done after blood sampling in course of the *Brucella melitensis* control program.

Type of specimen taken

Animals at farm

Other: Recto-anal swabs

Methods of sampling (description of sampling techniques)

Animals at farm

The swab was sent in transport medium cooled down to 4 °C and the fleece in a separate plastic bag in a hobbox or polystyrene box after adding cooling units to the AGES Institute of Veterinary Diseases Control (IVET) in Graz. In the laboratory, the swab and fleece were inoculated into separate broths.

Case definition

Animals at farm

An animal is considered to be infected with VTEC following the isolation of VTEC (verotoxin producing *E. coli* irrespective of intimin) from one of the samples tested.

Diagnostic/analytical methods used

Animals at farm

Other: In a first step the samples were screened for presence of verotoxins by ELISA, secondly the positive samples were processed for VTEC isolation, see chapter above.

The serotyping was carried out by the National Reference Laboratory for VTEC in the AGES Institute for Medical Microbiology and Hygiene (IMED) in Graz.

Vaccination policy

No vaccination

Other preventive measures than vaccination in place

No measures

Control program/mechanisms

Suggestions to the Community for the actions to be taken

Harmonization of methods with regard to all possible VTEC serotypes.

Measures in case of the positive findings or single cases

No measures foreseen

Notification system in place

No notification

Results of the investigation

Verotoxin was detected in 89 of 112 swab samples. VTEC could be isolated from 73 verotoxin-positive swab samples, showing a prevalence for VTEC of 65 %; none of them O157, all eae negative. In several samples more than one VTEC serotype was identified.

According to the EFSA definition of VTEC ("a VTEC positive sample is considered to be any sample, from which at least one *E. coli* strain containing vtx and eae has been isolated. Both gene-groups must be present in the isolated *E. coli* strain, for a sample to be positive") no VTEC was isolated from sheep, showing a prevalence of 0 %.

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

The prevalence of isolated VTEC from sheep remained high but we hypothesize that this is due to a higher sensitivity of the new ELISA, the sampling material (recto-anal swabs) and the improvement in the VTEC isolation techniques especially the use of the enterohemolysin-agar.

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

The relevance of findings of VTEC in/on sheep seems to be low because sheep meat is consumed well-done.

Additional information

The public is informed about the results via the annual zoonoses brochure.

Table VT E. coli in animals

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified	Verotoxigenic E. coli (VTEC) - VTEC O103:H2 - eae positive vtx1 positive vtx2 negative	Verotoxigenic E. coli (VTEC) - VTEC O103:HNT - eae positive vtx1 positive vtx2 negative	Verotoxigenic E. coli (VTEC) - VTEC O156:H- - eae positive vtx1 and vtx2 positive
Cattle (bovine animals) - unspecified - at slaughterhouse - animal sample - mucosal swab (rectum-anal) - Monitoring - official sampling - objective sampling	AGES IVET	Animal		127	8	2	6	0	1	1	1
Sheep - at farm - animal sample - mucosal swab - Monitoring - official sampling - objective sampling	AGES IVET	Animal		112	0	0	0	0	0	0	0

	Verotoxigenic E. coli (VTEC) - VTEC O157:H- - eae positive vtx1 and vtx2 positive	Verotoxigenic E. coli (VTEC) - VTEC O157:H7 - eae positive vtx1 negative vtx2 positive	Verotoxigenic E. coli (VTEC) - VTEC O177:H- - eae positive vtx1 negative vtx2 positive	Verotoxigenic E. coli (VTEC) - VTEC O84:H- - eae positive vtx1 positive vtx2 negative	Verotoxigenic E. coli (VTEC) - VTEC O157:H7 - eae positive vtx1 positive vtx2 positive
Cattle (bovine animals) - unspecified - at slaughterhouse - animal sample - mucosal swab (rectum-anal) - Monitoring - official sampling - objective sampling	1	1	1	1	1
Sheep - at farm - animal sample - mucosal swab - Monitoring - official sampling - objective sampling	0	0	0	0	0

2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1 General evaluation of the national situation

2.5.2 Mycobacterium in animals

A. Mycobacterium bovis in bovine animals

Status as officially free of bovine tuberculosis during the reporting year

The entire country free

Yes

Additional information

According to Council Directive 64/432/EEG from June 26, 1964, Austria has the status Officially Tuberculosis Free Member State declared in the Commission Decision 1999/467/EC from July 15th, 1999, replaced by Commission Decision 2003/467/EC from June 23rd, 2003. The monitoring programme is based on the compulsory ante-mortem and post-mortem inspection in which all cattle and goats originating from an official tuberculosis free holding have to be tested for tuberculous alterations. A national Regulation has been implemented due to the finding of *M. caprae* in cattle from a certain region (Rindertuberkuloseverordnung, BGBl II 322/2008). This Regulation includes provisions which apply for all Mycobacteria belonging to the Mycobacterium tuberculosis complex; therefore also a compulsory notification exists.

Monitoring system

Sampling strategy

Specimens are taken from carcasses with macroscopically observable alterations, characteristic for tuberculosis. They are sampled in slaughterhouses and sent to the national reference laboratory for tuberculosis in animals.

All cattle in holdings of designated regions given in annex 2 of the Rindertuberkuloseverordnung (BGBl II 2008/322) were subjected to simultaneous intracutan testing.

Frequency of the sampling

Continuous post-mortem inspections of each slaughtered bovine and caprine animal.

Intracutan testing: All cattle in holdings of designated regions given in annex 2 of the Rindertuberkuloseverordnung (BGBl II 322/2008).

Type of specimen taken

Organs/tissues: Tissues that are macroscopically altered due to tuberculosis, inclusive lymph nodes (according to Annex 4 of the Rindertuberkuloseverordnung, BGBl II 322/2008).

Methods of sampling (description of sampling techniques)

The alterations and lymph nodes are excised and sent to the national reference laboratory for tuberculosis in animals.

Case definition

According to Rindertuberkuloseverordnung, BGBl II 2008/322 -- Tuberculosis: Infection with Mycobacteria of the Mycobacterium tuberculosis complex. Results of the intracutan test: A reactor is each

animal which is not negative (either doubtful or positive). Doubtful and positive reactions are defined (see Rindertuberkuloseverordnung, BGBl II 2008/322).

Diagnostic/analytical methods used

Intracutan testing (simultaneous testing using bovine and avium tuberculin): The test is performed according to Council Directive 64/432/EEC of 26 June 1964, as amended and the national Rindertuberkuloseverordnung (BGBl II 322/2008).

Staining: Ziehl-Neelsen stains are performed on histological preparation and smears of the sample material.

Culture: After decontamination of the homogenised sample material in NALC and centrifugation, the sample material is transferred in parallel on Loewenstein-Jensen agar containing glycerol and PACT and Stonebrink agar containing PACT and Middlebrook medium. The media are incubated at 37 °C for up to 8 weeks.

Confirmation of the Mycobacterium species by PCR (De los Monteros et al. 1998: Journal of Clinical Microbiology 36: 239-242) in the National Reference Laboratory for Tuberculosis in Animals.

Vaccination policy

Due to the importance of the intracutan tests for diagnostic purposes, vaccinations are prohibited.

Other preventive measures than vaccination in place

Compulsory ante-mortem and post-mortem inspection of all slaughtered bovine and caprine carcasses originating from official tuberculosis free holding and intracutan tests in animals of given regions according to Rindertuberkuloseverordnung.

Control program/mechanisms

The control program/strategies in place

The control programs are based on the compulsory ante-mortem and post-mortem inspection of all slaughtered bovine and caprine carcasses originating from an official tuberculosis free holding.

Intracutan tests are performed in animals in holdings of given regions according to the epidemiological situation, defined in the Rindertuberkuloseverordnung.

Recent actions taken to control the zoonoses

A new national Regulation has been implemented due to the finding of *M. caprae* in cattle from a certain region (Rindertuberkuloseverordnung, BGBl II 322/2008). This Regulation includes provisions which apply for all mycobacteria belonging to the Mycobacterium tuberculosis complex; therefore also a compulsory notification exists.

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

The carcass is condemned.

Loss of the status OTF for the holding from which the animal was originated and for contact holdings.

It is prohibited to bring bovines and goats in and out of the holding. Slaughtering of cows and goats can only be allowed by the official veterinarian and has to be performed using a special testing and slaughtering frame. Epidemiological investigations have to be done.

Prohibition of keeping these animals together with animals from OTF-holdings on pastures or market places etc.

Regaining the status OTF:

There must be no animals in the holding showing signs of clinical tuberculosis

All animals are recruited from an OTF-holding

Animals have to be tested according to the Rindertuberkuloseverordnung (BGBl II 322/2008).

No reactors are identified after two intradermal testings of all animals in the holding older than 6 months examined earliest 60 days (first tuberculin test) and earliest 4 months (second tuberculin test) but latest 12 months after elimination of the last reactor.

Notification system in place

A suspected case of tuberculosis must be notified.

Results of the investigation

No findings of *M. bovis* in cattle.

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

No findings of *M. bovis* in cattle. Due to the fact that *M. caprae* is endemic in wildlife deer in Western parts of Austria (and South-Western parts of Germany), cattle in this areas has been observed with higher sensitivity. The National Regulation concerning Bovine Tuberculosis has been revised and set into force on 1. September 2008 (Rindertuberkuloseverordnung, BGBl II 2008/322, BGBl II 2008/384, BGBl II 2009/381).

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

-

Additional information

M. caprae is differentiated in Austria.

The public is informed about the results via the annual zoonoses brochure.

B. Mycobacterium bovis in farmed deer

Monitoring system

Sampling strategy

Due to the identification of *M. caprae* in several cattle holdings new control programmes have been developed and implemented in 2009.

Frequency of the sampling

Every shot farmed deer that is foreseen to be used as a food is subjected to pre and post mortem inspection. Pre mortem inspection can be performed by the livestock owner if the owner is trained in this special inspection and if the Veterinarian has assured himself of the physical health of the animal within the last month prior to slaughtering.

Type of specimen taken

Other: Macroscopically tuberculous alterations and lymph nodes

Methods of sampling (description of sampling techniques)

The alterations and lymph nodes are excised and sent to the national reference laboratory for tuberculosis in animals.

Case definition

Tubercles pathognomically for tuberculosis detected in course of the post-mortem inspection or *Mycobacterium bovis* or *Mycobacterium tuberculosis* isolated from suspected material

Diagnostic/analytical methods used

Staining: Ziehl-Neelsen stain is performed on histological preparation and smears of the sample material

Culture: After decontamination of the homogenised sample material in NALC and centrifugation, the sample material is transferred in parallel on Loewenstein-Jensen agar containing glycerol and PACT and Stonebrink agar containing PACT and Middlebrook medium. The media are incubated at 37 °C up to 8 weeks.

Confirmation of the *Mycobacterium* species by PCR (De los Monteros et al. 1998: Journal of Clinical Microbiology 36: 239-242) in the National Reference Laboratory for Tuberculosis in Animals

Vaccination policy

Vaccination is prohibited.

Other preventive measures than vaccination in place

-

Control program/mechanisms

The control program/strategies in place

The control programs are based on the compulsory ante-mortem and post-mortem inspection of all slaughtered carcasses originating from an official tuberculosis free holding

Recent actions taken to control the zoonoses

A new national Regulation has been implemented due to the finding of *M. caprae* in cattle from a certain region (Rindertuberkuloseverordnung, BGBl II 322/2008). This Regulation includes provisions which apply for all *Mycobacteria* belonging to the *Mycobacterium tuberculosis* complex; therefore also a compulsory notification exists.

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

The carcass is condemned. Further measures according to Tierseuchengesetz RGBI. 1909/177 as amended.

Notification system in place

The suspicion and finding of tuberculosis is notifiable.

Results of the investigation

No cases of *M. bovis* in 2010.

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

No cases of *M. bovis* in 2009.

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

-

Additional information

The public is informed about the results via the annual zoonoses brochure.

C. Mycobacterium spp., unspecified in Animals All animals - at slaughterhouse - animal sample - Control and eradication programmes - official sampling - census sampling (all slaughtered animals except those mentioned above)

Monitoring system

Sampling strategy

Samples from suspected swine are taken in slaughterhouses. Sampling is performed when tissue of slaughtered animals is visibly altered, seen by the unaided eye.

Goats in defined regions that are kept together with cattle are subjected to intracutan testing (see chapter Mycobacterium bovis bovine animals; Rindertuberkuloseverordnung, BGBl II 2008/322).

Frequency of the sampling

Continuous post-mortem inspections of each slaughtered animal

Type of specimen taken

Other: Macroscopic tuberculous alterations and lymphnodes

Methods of sampling (description of sampling techniques)

The altered tissue and lymph nodes are excised and sent to the laboratory

Case definition

Tubercles pathognomically for tuberculosis detected in course of the post-mortem inspection or Mycobacterium bovis or Mycobacterium tuberculosis or Mycobacterium avium isolated from suspected material

Tuberculosis (for bovines and goats which are kept together with bovines): Infection with Mycobacteria of the Mycobacterium tuberculosis complex. Results of the intracutan test: A reactor is each animal which is not negative (either doubtful or positive). Reactions are defined (see Rindertuberkuloseverordnung, BGBl II 2008/322)

Diagnostic/analytical methods used

Staining: Ziehl-Neelsen stains are performed on histological preparation and smears of the sample material

Culture: After decontamination of the homogenised sample material in NALC and centrifugation, the sample material is transferred in parallel on Loewenstein-Jensen agar containing glycerol and PACT and Stonebrink agar containing PACT and Middlebrook medium. The media are incubated at 37°C up to 8 weeks.

Confirmation of the Mycobacterium species by PCR (De los Monteros et al. 1998: Journal of Clinical Microbiology 36: 239-242) in the National Reference Laboratory for Tuberculosis in Animals

Vaccination policy

Vaccination is prohibited.

Other preventive measures than vaccination in place

See other chapters.

Control program/mechanisms

The control program/strategies in place

The control programs are based on the compulsory ante-mortem and post-mortem inspection of all slaughtered carcasses originating from an official tuberculosis free holding

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Recent actions taken to control the zoonoses

No need at the moment

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

The carcass is condemned. Further measures are performed according to Tierseuchengesetz RGBI. 1909/177, as amended.

Notification system in place

The detection of tuberculosis is notifiable.

Results of the investigation

No cases in Austria in 2010.

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

No cases in Austria in 2010.

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

-

Additional information

The public is informed about the results via the annual zoonoses brochure.

Table Tuberculosis in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Mycobacterium	M. bovis	M. tuberculosis	Mycobacterium spp., unspecified
Goats - at slaughterhouse - animal sample - Control and eradication programmes - official sampling - census ¹⁾	Stat. AT	Animal	5301	0			
Pigs - at slaughterhouse - animal sample - Control and eradication programmes - official sampling - census ²⁾	Stat. AT	Animal	5577579	0			
Sheep - at slaughterhouse - animal sample - Control and eradication programmes - official sampling - census ³⁾	Stat. AT	Animal	122053	0			

Comments:

- ¹⁾ compulsory ante-mortem and post-mortem inspection
- ²⁾ compulsory ante-mortem and post-mortem inspection
- ³⁾ compulsory ante-mortem and post-mortem inspection

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

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Routine tuberculin testing		Number of tuberculin tests carried out before the introduction into the herds (Annex A(I)(2)(c) third indent (1) of Directive 64/432/EEC)	Number of animals with suspicious lesions of tuberculosis examined and submitted to histopathological and bacteriological	Number of animals detected positive in bacteriological examination
	Herds	Animals	Number of herds	%	Number of herds	%	Interval between routine tuberculin tests	Number of animals tested			
Österreich ¹⁾	71563	2013281	71555	99.99	8	.01	a) no routine tests, g)	7633	15	40	8
Total : ²⁾	71563	2013281	71555	99.99	8	.01	N.A.	7633	15	40	8

Comments:

¹⁾ Source of information: Central Veterinary Services

²⁾ N.A.

Footnote:

all identified cases due to M. caprae; national control measures identical to the detection of M. bovis

2.6 BRUCELLOSIS

2.6.1 General evaluation of the national situation

A. Brucellosis general evaluation

History of the disease and/or infection in the country

In Austria, human brucellosis cases are considered to be an imported infectious disease. The Austrian cattle, sheep and goat population bears the status Officially Brucellosis Free (OBF) and Officially Brucella melitensis free (OBmF).

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

Three human cases were identified in 2010; two cases were imported, for the third case the infectious vehicle is unknown.

The number of Brucellosis cases presented in this report reflects the number of cases reported to the Epidemiological Reporting System and the National Reference Laboratory for Brucellosis, n = 3.

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

No findings in Austria, OBF and OBmF

Recent actions taken to control the zoonoses

A new national regulation has been implemented concerning the examination of milk- and bloodsamples in cattle (Bangseuchen-Untersuchungsverordnung 2008, BGBl II 2007/305).

Suggestions to the Community for the actions to be taken

Continuation of the existing control programs

Additional information

If zoonotic agents, which are listed in the national Zoonoses Act, are isolated from human specimen, food or animals the laboratories are obliged to send these strains to the respective national reference lab for typing and comparative analysis.

2.6.2 Brucella in animals

A. Brucella abortus in bovine animals

Status as officially free of bovine brucellosis during the reporting year

The entire country free

Yes

Additional information

Upon the request of the Commission Decision of July 15th 1999, CD 1999/466/EC, as amended, by the Council Directive 64/432/EEC of 26 June 1964, Austria achieved the status: officially brucellosis-free for bovine herds.

A new national regulation has been implemented concerning the examination of milk- and bloodsamples in cattle (Bangseuchen-Untersuchungsverordnung 2008, BGBl II 2007/305). This means that in the case of dairy herds, the examination of milk samples in accordance with Annex C of Council Directive 64/432/EEC of 26 June 1964 can be performed.

Monitoring system

Sampling strategy

Nationwide all bovine milk producing holdings were subjected to bulk milk testing.

In non-milk producing holdings a risk based sampling plan was performed.

Abortion or premature birth: Abortive material and blood of the cow is sampled

Frequency of the sampling

Bulk milk sampling: All milk producing holdings had been sampled minimum once per year according to the regulation (§6 Bangseuchen-Untersuchungsverordnung 2008, BGBl II 2007/305). In case of not-negative bulk milk samples, blood samples in the affected holding were investigated.

Holdings without milk production: A risk based sampling plan has been calculated stratified according to the different provinces (§6 Bangseuchen-Untersuchungsverordnung 2008, BGBl II 2007/305). If blood serology does not show a definitive negative result diagnostic slaughtering of the affected animal has to be carried out.

- Abortion or premature birth: Tissue and blood from the cow is sampled immediately post abortion. If the result of the first serological examination was negative, a second blood sample was taken 2 weeks post abortion for serological testing. If this result was negative again, sampling and testing was repeated after two weeks.

Type of specimen taken

Other: Bulk milk

Blood samples

Diagnostic slaughtering: organs and lymph nodes of the genital tract; udder and accessory lymph nodes; fetus (stomach, lungs); retropharyngeal lymph node.

Abortion or premature birth: Tissue and blood samples from the animal that had an abortion.

Methods of sampling (description of sampling techniques)

Bulk milk sampling: §6 Bangseuchen-Untersuchungsverordnung 2008, BGBl II 2007/305.

Holdings without milk production: According to the sampling plan individual blood samples are taken in the holdings and sent to the laboratories (§6 Bangseuchen-Untersuchungsverordnung 2008, BGBl II 2007/305).

Diagnostic slaughtering: §6 Bangseuchen-Untersuchungsverordnung 2008, BGBl II 2007/305.

Abortion or premature birth: Aborted tissue and blood samples sent to a veterinary laboratory.

Case definition

An animal is considered to be positive for *Brucella abortus*, in case of positive blood-serological test result and the epidemiological situation of the herd indicates the possibility that a brucella infection has been introduced to the herd or in case of bacteriological isolation. If a single animal reactor is detected in the holding, tracing back is an important tool to get more information about the animal.

Diagnostic/analytical methods used

Bulk milk: Testings according to Council Directive 64/432/EEC and the manual of Diagnostic Tests and Vaccines for Terrestrial Animals of the OIE.

Blood samples: Testings according to Council Directive 64/432/EEC and the manual of Diagnostic Tests and Vaccines for Terrestrial Animals of the OIE: Routinely single serum samples or serum pools (5 sera in one pool) were tested in the Indirect-ELISA (I-ELISA) using the three OIE ELISA *Brucella* Standard Sera (OIE ELISAwps, OIE ELISAsps, OIE ELISAns) and the OIE *Brucella abortus* Positive International Standard Antiserum (OIEISS) to calibrate the method (Commission Regulation 535/2002/EC of 21 March 2002 amending Annex C to Council Directive 64/432/EEC and amending Decision 2000/330/EC).

Following a positive or suspected test result in the IELISA single serum samples were also tested in the Complement Fixation Test (CFT), Rose Bengal test (RBT) and Competitive ELISA (C-ELISA).

Participation in international ring trials:

Participation in international ring trials (Weybridge, AFSSA and other) with ELISA, CFT, RBT and Serum Agglutination Test (SAT). The National Reference Laboratory for Brucellosis, Institute for Veterinary Disease Control in Moedling organized the national Brucellosis Ring Trials for all Veterinary Institutes.

Abortion or premature birth: Aborted material was tested bacteriologically and serologically as described above. Bacteriology: Smears of the samples are stained by Stableforth's method. *Brucella* agar and Columbia agar (Merck) containing selective additives were used (Oxoid). After inoculation the media were incubated for 4-10 days at 37°C in an atmosphere containing 10% CO₂. The genus was identified by microscopic examination, catalase-, oxidase- and the slide agglutination test using *brucella* serum. The species was differentiated by CO₂ requirement, H₂S formation, urease activity, growth on media containing standard concentrations of basic fuchsin or thionin and agglutination with monospecific sera and by PCR (Real-time detection of *Brucella abortus*, *Brucella melitensis* and *Brucella suis*. 2001: Redkar et al., Mol Cell Probes. 2001 Feb;15(1):43-52.).

Vaccination policy

Vaccination is not allowed (BGBl. 1957/147, Bangseuchengesetz, § 13 Impfung)

Other preventive measures than vaccination in place

-

Control program/mechanisms

The control program/strategies in place

Control programme according to the National Regulation (Bangseuchen-Untersuchungsverordnung 2008, BGBl II 2007/305). Abortion or premature birth: Compulsory notification according BGBl 1957/147, Bangseuchengesetz, as amended, §11 Anzeigepflicht;

Recent actions taken to control the zoonoses

No actions, because OBF

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

According to BGBl 1957/147, Bangseuchengesetz, as amended, and BGBl 1909/177, Tierseuchengesetz, as amended

Notification system in place

Abortion or premature birth: Notification of abortions: The livestock owner has to notify each abortion within 24 hours to the mayor (Gemeinde). The mayor has to forward the notification to the local authority (Bezirksverwaltungsbehörde) (BGBl. 1957/147, Bangseuchengesetz, § 11 Anzeigepflicht). If the cow is being treated by a veterinarian or the veterinarian has been informed about the abortion, then the veterinarian has to notify to the official authority (Bezirksverwaltungsbehörde).

Results of the investigation

See tables

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

OBF

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

-

Additional information

The public is informed about the results via the annual zoonoses brochure.

B. Brucella melitensis in goats

Status as officially free of caprine brucellosis during the reporting year

The entire country free

Yes

Additional information

According to Commission Decision Nr. 93/52/EWG, as amended, Austria has the status officially brucellosis (B. melitensis) free (ObmF).

Monitoring system

Sampling strategy

To maintain the status officially brucellosis (B. melitensis) free, according to BGBl. 2002/184 (Brucella melitensis-Überwachungsverordnung, of 14 May 2002) a representative number of samples were examined with a confidence level of 95 % to detect infected holdings at a target prevalence of 0.2 %. Sampling was performed by the competent authority or under its supervision, by bodies to which it had delegated this responsibility. Samples were taken in the holdings. Aborted material and blood samples from the animal were also investigated.

Frequency of the sampling

Principally the sampling was performed during the cold season, between November and May when the animals were kept in the stables.

Type of specimen taken

- Other: • Monitoring: Blood samples according to a sampling plan.
- Clinical cases: Aborted material and blood samples from the affected animal.

Methods of sampling (description of sampling techniques)

Individual blood samples and aborted material are taken within the holdings and sent to the laboratories.

Case definition

An animal is considered to be infected with B. melitensis in case of bacteriological isolation or positive serological test result.

Diagnostic/analytical methods used

- Routinely single serum samples were tested in the Indirect ELISA. Confirmation of suspected or positive results was performed by the Complement Fixation Test (CFT) with reference standard antisera from CVL -Weybridge. Participation in international ring trials on Brucellosis (Weybridge and other) with ELISA, CFT, RBT and SAT. The National Reference Laboratory for Brucellosis, Institute for Veterinary Disease Control in Moedling organized the national Brucellosis Ring Trials for all national Veterinary Institutes.

Bacteriology: Smears of the samples were stained by Stableforth's method. Brucella agar and Columbia agar (Merck) containing selective additives (Oxoid) were used. After inoculation the media are incubated for 4 - 10 days at 37 °C in an atmosphere containing 10 % CO₂. The genus was identified by microscopic examination, catalase-, oxidase- and the slide agglutination test using brucella serum. The species were differentiated by CO₂ requirement, H₂S formation, urease activity, growth on media containing standard concentrations of basic fuchsin or thionin and agglutination with monospecific sera and by PCR (Real-time detection of Brucella abortus, Brucella melitensis and Brucella suis. 2001: Redkar et al., Mol Cell Probes. 2001 Feb;15(1):43-52.).

Vaccination policy

According to BGBl. 2002/184 (Brucella melitensis-Überwachungsverordnung, of 14 May 2002, §4, Impfverbot) vaccination is not allowed.

Other preventive measures than vaccination in place

Monitoring program and investigation of abortions

Control program/mechanisms

The control program/strategies in place

To maintain the status officially brucellosis (B. melitensis) free, according to BGBl. 2002/184 (Brucella melitensis-Überwachungsverordnung, of 14 May 2002) a representative number of samples have to be examined with a confidence level of 95 % to detect infected holdings at a prevalence of 0.2 %. Sampling is performed by the appropriate authority or under its supervision, by bodies to which it has delegated this responsibility. Samples are taken in the holdings.

Notification and clarification of each clinical case by bacteriology and serology.

Recent actions taken to control the zoonoses

ObmF

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

According to BGBl. 2002/184 (Brucella melitensis-Überwachungsverordnung, of 14 May 2002, §3, Ausmerzung von Reagenten) reactors have to be culled, the carcasses have to be incinerated in an incineration plant.

Notification system in place

Notification of brucellosis or a suspicion of brucellosis according to BGBl. 2002/184 (Brucella melitensis-Überwachungsverordnung, of 14 May 2002).

Results of the investigation

See tables

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

ObmF

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

-

Additional information

The public is informed about the results via the annual zoonoses brochure.

C. Brucella melitensis in sheep

Status as officially free of ovine brucellosis during the reporting year

The entire country free

Yes

Additional information

According to Commission Decision Nr. 93/52/EWG, as amended, Austria has the status officially brucellosis (*B. melitensis*) free (ObmF).

Monitoring system

Sampling strategy

To maintain the status officially brucellosis (*B. melitensis*) free, according to BGBl. 2002/184 (*Brucella melitensis*-Überwachungsverordnung, of 14 May 2002) a representative number of samples were examined with a confidence level of 95 % to detect infected holdings at a target prevalence of 0.2 %. Sampling was performed by the competent authority or under its supervision, by bodies to which it had delegated this responsibility. Samples were taken in the holdings. Aborted material and blood samples from the animal were also investigated.

Frequency of the sampling

Principally the sampling was performed during the cold season, between November and May when the animals were kept in the stables.

Type of specimen taken

- Other: • Monitoring: Blood samples according to a sampling plan.
- Clinical cases: Aborted material and blood samples from the affected animal.

Methods of sampling (description of sampling techniques)

Individual blood samples and aborted material are taken within the holdings and sent to the laboratories.

Case definition

An animal is considered to be infected with *B. melitensis* in case of bacteriological isolation or positive serological test result.

Diagnostic/analytical methods used

- Routinely single serum samples were tested in the Indirect ELISA. Confirmation of suspected or positive results was performed by the Complement Fixation Test (CFT) with reference standard antisera from CVL -Weybridge. Participation in international ring trials on Brucellosis (Weybridge and other) with ELISA, CFT, RBT and SAT. The National Reference Laboratory for Brucellosis, Institute for Veterinary Disease Control in Moedling organized the national Brucellosis Ring Trials for all national Veterinary Institutes.

Bacteriology: Smears of the samples were stained by Stableforth's method. *Brucella* agar and Columbia agar (Merck) containing selective additives (Oxoid) were used. After inoculation the media are incubated for 4 - 10 days at 37 °C in an atmosphere containing 10 % CO₂. The genus was identified by microscopic examination, catalase-, oxidase- and the slide agglutination test using *brucella* serum. The species were differentiated by CO₂ requirement, H₂S formation, urease activity, growth on media containing standard concentrations of basic fuchsin or thionin and agglutination with monospecific sera and by PCR (Real-time detection of *Brucella abortus*, *Brucella melitensis* and *Brucella suis*. 2001: Redkar et al., Mol Cell Probes. 2001 Feb;15(1):43-52.).

Vaccination policy

According to BGBl. 2002/184 (Brucella melitensis-Überwachungsverordnung, of 14 May 2002, §4, Impfverbot) vaccination is not allowed.

Other preventive measures than vaccination in place

Monitoring program and investigation of abortions

Control program/mechanisms

The control program/strategies in place

To maintain the status officially brucellosis (B. melitensis) free, according to BGBl. 2002/184 (Brucella melitensis-Überwachungsverordnung, of 14 May 2002) a representative number of samples have to be examined with a confidence level of 95 % to detect infected holdings at a prevalence of 0.2 %. Sampling is performed by the appropriate authority or under its supervision, by bodies to which it has delegated this responsibility. Samples are taken in the holdings.

Notification and clarification of each clinical case by bacteriology and serology.

Recent actions taken to control the zoonoses

ObmF

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

According to BGBl. 2002/184 (Brucella melitensis-Überwachungsverordnung, of 14 May 2002, §3, Ausmerzung von Reagenten) reactors have to be culled, the carcasses have to be incinerated in an incineration plant.

Notification system in place

Notification of brucellosis or a suspicion of brucellosis according to BGBl. 2002/184 (Brucella melitensis-Überwachungsverordnung, of 14 May 2002).

Results of the investigation

See tables

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

ObmF

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

-

Additional information

The public is informed about the results via the annual zoonoses brochure.

D. B. suis in Animals

Monitoring system

Sampling strategy

According to Guideline 64/432/EEC as amended.

Frequency of the sampling

Targeted, following abortion and in positive cases contact holdings.

Type of specimen taken

Other: - Monitoring: Blood samples;

- Clinical cases: Abortion material and blood samples from the affected animal; tissues: according to decree 74700/0132-IV/B/5/2008

Methods of sampling (description of sampling techniques)

Individual blood samples and abortion material are taken from animals in the holdings and sent to the laboratories.

Case definition

An animal is considered to be serologically positive for brucellosis following one/more positive CFT Complement Fixation Test (CFT) and RBT Rose Bengal test (RBT) results (B. abortus used antigen). A bacteriological isolation may also be possible as in the case of B. suis.

Diagnostic/analytical methods used

- Due to the fact that a Brucella suis antigen is not available, the B. abortus antigen is used for the Complement Fixation Test (CFT) and the Rose Bengal test (RBT) because B. abortus shows cross reactions with B. suis antibodies.
- ELISA and CFT is not available, the B. abortus ELISA and CFT are used because these tests show cross reactions with B. suis antibodies.
- Participation in international ring trials: Brucellosis European Ring Trial 2000 and 2002 (VLA Weybridge) with ELISA, CFT, RBT and Serum Agglutination Test (SAT). The National Reference Laboratory for Brucellosis, Institute for Veterinary Disease Control in Moedling organized the national Brucellosis Ring Trials for all Veterinary Institutes.

Bacteriology: Quality control: Laboratory strains

- Smears of the samples are stained by Stableforth's method
- Brucella agar and Columbia agar (Merck) containing selective additives (Oxoid) were used. After inoculation the media are incubated for 4-10 days at 37 °C in an atmosphere containing 10 % CO₂. The genus was identified by microscopic examination, catalase-, oxidase- and the slide agglutination test using brucella serum. The species were differentiated by CO₂ requirement, H₂S formation, urease activity, growth on media containing standard concentrations of basic fuchsin or thionin and agglutination with monospecific sera and by PCR (Real-time detection of Brucella abortus, Brucella melitensis and Brucella suis. 2001: Redkar et al., Mol Cell Probes. 2001 Feb;15(1):43-52.).

Vaccination policy

-

Other preventive measures than vaccination in place

-

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

No mandatory measures but notification is required.

Notification system in place

B. suis has been a notifiable disease since 1993 according to BGBl 1993/756, Tierseuchen-Anzeigepflichtverordnung, as amended.

Results of the investigation

There was one case of Brucella suis in 2010 (serologically positive).

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

Due to the results of the passive monitoring in pigs we conclude that there is no need for an active monitoring program.

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

-

Additional information

The public is informed about the results via the annual zoonoses brochure.

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

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

Region	Total number of existing		Officially free herds		Infected herds		Surveillance			Investigations of suspect cases				
	Herds	Animals	Number of herds	%	Number of herds	%	Number of herds tested	Number of animals tested	Number of infected herds	Number of animals tested with serological blood tests	Number of animals positive serologically	Number of animals examined microbiologically	Number of animals positive microbiologically	Number of suspended herds
Österreich	27208	503674	27208	100	0	0	1669	19907	0	0	0	0	0	0
Total : ¹⁾	27208	503674	27208	100	0	0	1669	19907	0	0	0	0	0	0

Comments:

¹⁾ N.A.

Footnote:

Source of information: Central Veterinary Services, Provincial Veterinary Services

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

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance						Investigations of suspect cases								
							Serological tests			Examination of bulk milk			Information about			Epidemiological investigation					
	Herds	Animals	Number of herds	%	Number of herds	%	Number of bovine herds tested	Number of animals tested	Number of infected herds	Number of bovine herds tested	Number of animals or pools tested	Number of infected herds	Number of notified abortions whatever cause	Number of isolations of Brucella infection	Number of abortions due to Brucella abortus	Number of animals tested with serological blood tests	Number of suspended herds	Number of positive animals		Number of animals examined microbiologically	Number of animals positive microbiologically
																		Sero logically	BST		
Österreich	71563	2013281	71563	100	0	0	3781	30210	0	35374	35427	0	825	0	0	2003	60	0	0	2	0
Total : ¹⁾	71563	2013281	71563	100	0	0	3781	30210	0	35374	35427	0	825	0	0	2003	60	0	0	2	0

Comments:

¹⁾ N.A.

Footnote:

Source of information: Central Veterinary Services

2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

A. Yersinia enterocolitica general evaluation

History of the disease and/or infection in the country

Yersiniosis is not considered a major food borne illness in Austria. The incidence of human disease is low when compared to salmonellosis or campylobacteriosis.

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

The number of Yersiniosis cases presented in this report reflects the number of cases reported to the Epidemiological Reporting System and the National Reference Laboratory for Yersiniosis, n = 84.

The sources of infections are unclear. Neither studies on sporadic cases nor scientific outbreak investigations were performed in Austria so far.

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

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Additional information

If zoonotic agents, which are listed in the national Zoonoses Act, are isolated from human specimen, food or animals the laboratories are obliged to send these strains to the respective national reference lab for typing and comparative analysis.

2.7.2 Yersinia in foodstuffs

A. Yersinia spp., unspecified in Food All foodstuffs

Monitoring system

Sampling strategy

Foodstuff was sampled according to the ordinance „Revisions- und Probenplan für das Jahr 2008 gemäß §31 LMSVG; Richtlinien über die Vollziehung der Überwachung des Verkehrs mit den durch das LMSVG erfassten Waren; Berichtsschema 2008“ (BMGFJ – 75500/0332-IV/B/7/2008) from the Federal Ministry of Health. This “Revisions- und Probenplan” is part of the multi-annual national control plan (2007-2010) according to Art. 41 ff of Regulation (EC) No 882/2004.

The Revision-Plan determines the number of food enterprises e.g. restaurants, dairies, retail outlets etc. that have to be sampled and tested randomly according to the number of food enterprises per province. Every business within Austria has to be sampled at least once per year. The inspection can comprise sampling, hygienic investigations of the employees, checking of HACCP concepts, control of manufacturing processes etc.

In 2010, approximately 35,000 samples were planned to be tested in Austria. About 75 % of these are planned samples (surveillance) and only these numbers are used in this report (data from suspect samples are not shown). These planned samples either consist of samples of the yearly sampling plan which determines the number of samples of each food category that have to be investigated randomly, e.g. raw meat (fresh or frozen); sausages; cheeses; milk; preserved food etc. There are different sampling stages where food samples are taken: e.g. from retail, processing plant, primary production.

In addition there is a monitoring plan for food items (40-45 campaigns per year). In the course of these programs food items of special interest for defined parameters – amongst others zoonotic agents – are investigated. The sampling takes place during a fixed period of time in order to gain in-dept information. In 2010, seven food campaign programs were conducted throughout Austria dealing with zoonotic agents (Schwerpunktprogramm 2010 BMG-75500/0246-II/B/7/2009). Details and results of these campaigns can be found in the respective chapters.

Diagnostic/analytical methods used

Enrichment of 25 g sample in ITC-broth and incubation at 25°C for 48 hours and enrichment in PSB-broth at 22-25°C for 5 days; plating on CIN-agar and SSDC-agar and incubation at 30°C for 48 hours.

Table Yersinia in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Yersinia	Y. enterocolitica	Y. pseudotuberculosis	Yersinia spp., unspecified	Y. enterocolitica - O:3	Y. enterocolitica - O:9	Y. enterocolitica - Y. enterocolitica, unspecified
Fishery products, unspecified - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from other animal species or not specified - Surveillance - official controls - objective sampling	*	Single	25g	2	0						
Meat from pig - fresh - Surveillance - official controls - objective sampling	*	Single	25g	1	0						
Meat from poultry, unspecified - fresh - Surveillance - official controls - objective sampling	*	Single	25g	1	1	1					
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - Surveillance - official controls - objective sampling	*	Single	25g	1	1						

	Y. enterocolitica - biotype 1A	Y. frederiksenii
Fishery products, unspecified - Surveillance - official controls - objective sampling		
Meat from other animal species or not specified - Surveillance - official controls - objective sampling		
Meat from pig - fresh - Surveillance - official controls - objective sampling		

Table Yersinia in food

	Y. enterocolitica - biotype 1A	Y. frederiksenii
Meat from poultry, unspecified - fresh - Surveillance - official controls - objective sampling	1	
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - Surveillance - official controls - objective sampling		1

Footnote:
* All Official Food Institutes

2.7.3 Yersinia in animals

A. Yersinia spp., unspecified in Animals

Monitoring system

Sampling strategy

Not relevant in Austria therefore no testing.

Vaccination policy

No vaccination.

Other preventive measures than vaccination in place

Nil

Control program/mechanisms

Suggestions to the Community for the actions to be taken

EU wide harmonized monitoring program.

Notification system in place

Findings of Yersinia are not notifiable in animals.

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

No changes in recent years.

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

The relevance has not been investigated.

Additional information

Nil

2.8 TRICHINELLOSIS

2.8.1 General evaluation of the national situation

A. Trichinellosis general evaluation

History of the disease and/or infection in the country

No documented autochthon human infestations since several years.

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

The number of Trichinellosis cases presented in this report reflects the number of cases reported to the Epidemiological Reporting System and the National Reference Laboratory for Trichinellosis, n = 5.

No documented autochthone human infestations in 2010.

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

Two documented infestations in food-animals (wild boars).

Recent actions taken to control the zoonoses

No new measures implemented

Suggestions to the Community for the actions to be taken

Reconsider the necessity of routine trichinella meat inspection in pig carcasses

Additional information

If zoonotic agents, which are listed in the national Zoonoses Act, are isolated from human specimen, food or animals the laboratories are obliged to send these strains to the respective national reference lab for typing and comparative analysis.

2.8.2 Trichinella in animals

A. Trichinella in horses

Monitoring system

Sampling strategy

Targeted sampling of all slaughtered horses; the sampling is performed by competent authorities; the samples are taken at slaughterhouses; the sampling is part of a permanent monitoring scheme

Frequency of the sampling

Permanent post-mortem sampling of each slaughtered horse

Type of specimen taken

Muscles from tongue, masseter, diaphragm and neck.

Methods of sampling (description of sampling techniques)

Appropriate muscle is excised out of the carcass.

Case definition

When trichinosis is detected with one of the given methods.

Diagnostic/analytical methods used

According to Regulation (EC) Nr. 2075/2005

Results of the investigation including the origin of the positive animals

No findings in horses.

Control program/mechanisms

The control program/strategies in place

Lebensmittelsicherheits- und Verbraucherschutzgesetz (LMSVG, BGBl. I 2006/13, as amended),
Fleischuntersuchungsverordnung (BGBl II 2006/109 as amended)

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

According to Regulation (EC) Nr. 854/2004 as amended.

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

-

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

-

Additional information

The public is informed about the results via the annual zoonoses brochure.

B. Trichinella in pigs

Monitoring system

Sampling strategy

General

Targeted sampling of all slaughtered pigs except pigs slaughtered by the farmer for his own consumption; the sampling is performed by competent authorities; the samples are taken at slaughterhouses; the sampling is part of a permanent monitoring scheme.

Frequency of the sampling

General

Permanent post-mortem sampling of each slaughtered pig

Type of specimen taken

General

Muscles: Diaphragm (crus), tongue, masseter and abdominal muscles.

Methods of sampling (description of sampling techniques)

General

Appropriate muscle is excised out of the carcass.

Case definition

General

When trichinosis is detected with one of the given methods

Diagnostic/analytical methods used

General

According to Regulation (EC) Nr. 2075/2005

Preventive measures in place

-

Control program/mechanisms

The control program/strategies in place

Lebensmittelsicherheits- und Verbraucherschutzgesetz (LMSVG, BGBl. I 2006/13, as amended),
Fleischuntersuchungsverordnung (BGBl II 2006/109 as amended)

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

According to Regulation (EC) Nr. 854/2004, as amended.

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

No findings in pigs

Additional information

The public is informed about the results via the annual zoonoses brochure.

C. Trichinella spp., unspecified in Animals Wild boars

Monitoring system

Sampling strategy

Sampling of all hunted or harvested wild boars; the sampling is performed by hunters with special knowledge about trichinella investigation or by competent authorities; the sampling is stratified by geographical regions depending to the habitats of wild boar in Austria; samples are taken either immediately after shooting the animal or at the cold storage depots; the sampling is part of a monitoring scheme.

Frequency of the sampling

All farmed wild boars are controlled for trichinella.

Type of specimen taken

Diaphragm muscles (crus), tongue, masseter and abdominal muscles.

Methods of sampling (description of sampling techniques)

Appropriate muscle is excised out of the carcass.

Case definition

When trichinosis is detected with one of the given methods.

Diagnostic/analytical methods used

According to Regulation (EC) Nr. 2075/2005

Control program/mechanisms

The control program/strategies in place

Lebensmittelsicherheits- und Verbraucherschutzgesetz (LMSVG, BGBl. I 2006/13, as amended),
Fleischuntersuchungsverordnung (BGBl II 2006/109 as amended)

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

According to Regulation (EC) Nr. 854/2004 as amended.

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

In 2 samples Trichinella was detected

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

-

Additional information

The public is informed about the results via the annual zoonoses brochure.

Table Trichinella in animals

	Source of information	Sampling unit	Units tested	Total units positive for Trichinella	T. spiralis	Trichinella spp., unspecified
Pigs - fattening pigs - not raised under controlled housing conditions	CVS	Animal	5577579	0		
Solipeds, domestic - horses	CVS	Animal	520	0		
Wild boars - farmed	CVS	Animal	25480	2		2
Badgers - wild	CVS	Animal	17	0		

2.9 ECHINOCOCCOSIS

2.9.1 General evaluation of the national situation

A. Echinococcus spp. general evaluation

History of the disease and/or infection in the country

Austria is a low risk country for both forms of echinococcosis.

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

The number of Echinococcosis cases presented in this report (table 2) reflects the number of cases reported to the Epidemiological Reporting System and the National Reference Laboratory for Echinococcosis, n = 21.

We expect the future prevalence to be low.

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

Alveolar echinococcosis: Due to the infestation rates of red foxes in Austria (0-40 %) there is a relatively elevated risk for hunters, cat owners and farmers.

Recent actions taken to control the zoonoses

Tools for preventive serological screening of hunters (and also other persons) have been established to detect Echinococcus multilocularis infections in an early stage. The early detection of the infection is the prerequisite for a successful curative treatment.

Suggestions to the Community for the actions to be taken

-

Additional information

If zoonotic agents, which are listed in the national Zoonoses Act, are isolated from human specimen, food or animals the laboratories are obliged to send these strains to the respective national reference lab for typing and comparative analysis.

2.9.2 Echinococcus in animals

A. Echinococcus spp., unspecified in Animals

Monitoring system

Sampling strategy

Targeted sampling of all in abattoirs slaughtered animals; the sampling is performed by competent authorities in course of the post-mortem meat inspection; the sampling is part of a permanent monitoring scheme.

Frequency of the sampling

Permanent post-mortem sampling of each slaughtered animal

Methods of sampling (description of sampling techniques)

All organs and muscles that were used for human consumption

Case definition

Each carcass in which cysts, cystic or alveolar hydatids are detected in muscles or organs

Diagnostic/analytical methods used

Other: All organs and muscles that were used for human consumption were visually inspected, palpated and cuttings were performed

Vaccination policy

No vaccination

Other preventive measures than vaccination in place

No measures

Control program/mechanisms

The control program/strategies in place

Post mortem meat inspection act according to BGBl. 1982/522, Fleischuntersuchungsgesetz, as amended

Recent actions taken to control the zoonoses

Nil

Suggestions to the Community for the actions to be taken

Nil

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

Cystic or alveolar echinococcosis in animals that are used for food production do not play a role for the infection of humans; it is primarily a hygienic problem.

Additional information

The public is informed about the results via the annual zoonoses brochure.

Table Echinococcus in animals

	Source of information	Sampling unit	Region	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis	Echinococcus spp., unspecified
Cattle (bovine animals) - at slaughterhouse - animal sample - Control and eradication programmes - official sampling - census	AGES IVET	Animal		624859	195	0	0	195
Goats - at slaughterhouse - animal sample - Control and eradication programmes - official sampling - census	AGES IVET	Animal		45159	0	0	0	0
Pigs - at slaughterhouse - animal sample - Control and eradication programmes - official sampling - census	AGES IVET	Animal		5632643	0	0	0	0
Sheep - at slaughterhouse - animal sample - Control and eradication programmes - official sampling - census	AGES IVET	Animal		265568	622	0	0	622

Footnote:

All detected cysts are reported but not differentiated

2.10 TOXOPLASMOSIS

2.10.1 General evaluation of the national situation

2.10.2 Toxoplasma in animals

A. Toxoplasma spp., unspecified in Animals

Monitoring system

Sampling strategy

There is no official surveillance for Toxoplasma spp. in animals. Sampling of cattle, sheep, goats or pigs is performed depending on clinical suspicion of toxoplasmosis and if ordered by the sender in cases after abortion. Other animal species are also occasionally sampled.

Frequency of the sampling

In case of clinical suspicion and abortion and if ordered.

Type of specimen taken

Other: Blood, organ, faeces

Case definition

A case is defined as an animal that tested positive serologically ($\geq 1:40$) or if the pathogen is detected microscopically. The animal is the epidemiological unit.

Diagnostic/analytical methods used

The diagnostic methods used for serology is the microagglutination test.

Vaccination policy

No vaccination

Control program/mechanisms

The control program/strategies in place

Nil

Recent actions taken to control the zoonoses

Nil

Suggestions to the Community for the actions to be taken

Nil

Notification system in place

Toxoplasmosis is not notifiable in animals.

Results of the investigation

No valid data available

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

Nil

Additional information

Nil

Table Toxoplasma in animals

	Source of information	Sampling unit	Units tested	Total units positive for Toxoplasma	T. gondii
Cats - at farm - animal sample - blood - Clinical investigations	AGES IVET	Animal	1	0	0
Cattle (bovine animals) - at farm - animal sample - blood - Clinical investigations	AGES IVET	Animal	10	0	0
Cattle (bovine animals) - at farm - animal sample - organ/tissue - Clinical investigations	AGES IVET	Animal	1	0	0
Dogs - at farm - animal sample - faeces - Clinical investigations	AGES IVET	Animal	1	0	0
Dogs - at farm - animal sample - organ/tissue - Clinical investigations	AGES IVET	Animal	1	0	0
Goats - at farm - animal sample - blood - Clinical investigations	AGES IVET	Animal	29	6	6
Sheep - at farm - animal sample - blood - Clinical investigations	AGES IVET	Animal	27	16	16
Sheep - at farm - animal sample - organ/tissue - Clinical investigations	AGES IVET	Animal	12	0	0

2.11 RABIES

2.11.1 General evaluation of the national situation

A. Rabies general evaluation

History of the disease and/or infection in the country

Rabies in humans was a major public health issue in the 1960s.

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

In 2010, there was no case of rabies detected in animals in Austria.

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

-

Recent actions taken to control the zoonoses

In 2010, vaccination programmes were carried out in fox populations in areas of higher risk.

Suggestions to the Community for the actions to be taken

-

Additional information

-

2.11.2 Lyssavirus (rabies) in animals

A. Lyssavirus, unspecified in Animals Foxes - wild

Monitoring system

Sampling strategy

According to GZ:39.642/14-VII/B/03: 8 foxes per 100 qkm in rabies infected and rabies endangered areas, 4 foxes per 100 qkm in not endangered and free areas (definition of areas: GZ 30.517/35-IV/12/03).

Frequency of the sampling

8 foxes per 100 km² in rabies infested and rabies endangered areas, 4 foxes per 100km² in not endangered and free areas.

Type of specimen taken

Other: Brain (brain stem or hippocampus)

Methods of sampling (description of sampling techniques)

Whole animals or heads of the dead animals are sent to the laboratories; sometimes brain tissue (derived from other laboratories). Brain tissue (e.g. 1 cm²) is examined.

Case definition

An animal is considered positive if the fluorescent antibody test (FAT) shows a positive signal.

Diagnostic/analytical methods used

The routine test was the fluorescent antibody test (FAT).

RTCIT (rabies tissue culture infection test) was performed on mouse neuroblastoma cells.

MIT (mouse inoculation test) will be only performed on demand, not for routine confirmation

Vaccination policy

Delivery of vaccine containing baits in the southern part of East Tyrol; the requirement is 25 baits/km² in an area of approximately 854 km² (27 packets with 800 pieces each); additionally emergency vaccination from southern Tyrol to the Deferegger Alps (iG, Drautal) Lesachtal in Carinthia due to cases of rabies registered in North Italy since October 2008.

Other preventive measures than vaccination in place

No measures

Control program/mechanisms

The control program/strategies in place

Fuchs-Tollwutbekämpfungsverordnung 2010 BGBl II 2010/329, Tierseuchengesetz TSG RgBl 1909/177 as amended, BGBl I 2002/65 IV. Abschnitt, §41, §42, Tierseuchengesetz-Durchführungsverordnung 1909/178 as amended: BGBl 1955/76 TSG-DVO zum IV. Abschnitt Wutkrankheiten

Control of vaccination: Detection of tetracycline in jaw bones of randomly chosen foxes from the vaccination area; additionally an ELISA is performed to proof seroconversion.

Recent actions taken to control the zoonoses

A helicopter was requested to delivery the baits; recommendation of vaccination for dogs and cats in the southern border area and public awareness through BMGs homepage.

Suggestions to the Community for the actions to be taken

Probably the reduction of the number of the animals (foxes) for investigation

Measures in case of the positive findings or single cases

Tierseuchengesetz TSG RGBI 1909/177 as amended, BGBl I 2002/65 IV. Abschnitt, §41, §42, and vaccination of the fox population

Notification system in place

According to Tierseuchengesetz TSG RGBI 1909/177 as amended, BGBl I 2002/65 IV. Abschnitt, §41, §42

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

Austria is declared as rabies free since 28.9.08. Note the additional emergency vaccination in Carinthia according GZ 74.100/0002-II/B/5/2010 and GZ. 74100/0091-II/B10/2010.

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

Nil

B. Lyssavirus, unspecified in Animals All animals (except foxes)

Monitoring system

Sampling strategy

Sampling is targeted when animals are observed with central nerval symptoms or after biting a person.
The suspicious animal is killed or euthanized and the carcass or head is sent to the laboratory.

Frequency of the sampling

If a case is suspected

Type of specimen taken

Other: Brain (hippocampus and brain stem)

Methods of sampling (description of sampling techniques)

Routinely a sample will be taken from one site of the brain: a part from the hippocampus, brain stem or cerebellum. If an animal has bitten a person then 2 parts from the brain will be taken: hippocampus and brain stem.

Case definition

An animal is considered positive if the fluorescent antibody tests (FAT) or the rabies tissue culture infection test or the mouse inoculation test show a positive result.

Diagnostic/analytical methods used

The routine test was the fluorescent antibody test (FAT).
RTCIT (rabies tissue culture infection test) was performed on mouse neuroblastoma cells.
MIT (mouse inoculation test) will be only performed on demand, not for routine confirmation

Vaccination policy

Voluntary vaccination of pets.

Other preventive measures than vaccination in place

No measures

Control program/mechanisms

The control program/strategies in place

The control program/strategies in place
Tierseuchengesetz TSG RGBI 1909/177 as amended, BGBl I 2002/65 IV. Abschnitt, §41, §42;
Tierseuchengesetz-Durchführungsverordnung 1909/178 as amended: BGBl 1955/76

Recent actions taken to control the zoonoses

Nil

Suggestions to the Community for the actions to be taken

Nil

Measures in case of the positive findings or single cases

Tierseuchengesetz TSG RGBI 1909/177 as amended, BGBl I 2002/65 IV. Abschnitt, §41, §42. If a rabies suspicious pet bites a person, the person is treated.

Notification system in place

According to Tierseuchengesetz TSG RGBI 1909/177 as amended, BGBl I 2002/65 IV. Abschnitt, §41, §42

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

Nil

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

Nil

Additional information

On 28th of September 2008, Austria has been declared free of rabies.

Vaccination areas, rabies endangered and rabies free areas were redefined.

Table Rabies in animals

	Source of information	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Lyssavirus, unspecified	Classical rabies virus (genotype 1)	European Bat Lyssavirus - unspecified
Badgers - wild - from hunting - Control and eradication programmes - official sampling - suspect sampling	AGES	Animal		11	0			
Bats - wild - from hunting - Monitoring - official sampling - selective sampling	AGES	Animal		80	0			
Cats - at farm - animal sample - organ/tissue - Clinical investigations	AGES	Animal		52	0			
Cattle (bovine animals) - at farm - animal sample - organ/tissue - Clinical investigations	AGES	Animal		6	0			
Deer - wild - roe deer - from hunting	AGES	Animal		3	0			
Dogs - at farm - animal sample - organ/tissue - Clinical investigations	AGES	Animal		57	0			
Foxes - wild - from hunting - Monitoring - official sampling - selective sampling	AGES	Animal		2358	0			
Marten - wild - from hunting - Control and eradication programmes - official sampling - suspect sampling	AGES	Animal		26	0			
Other animals - wild - from hunting - Control and eradication programmes - official sampling - suspect sampling	AGES	Animal		10	0			
Other mustelides - wild - from hunting - Control and eradication programmes - official sampling - suspect sampling	AGES	Animal		7	0			
Sheep - at farm - animal sample - organ/tissue - Clinical investigations	AGES	Animal		1	0			

Table Rabies in animals

	Source of information	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Lyssavirus, unspecified	Classical rabies virus (genotype 1)	European Bat Lyssavirus - unspecified
Solipeds, domestic - at farm - animal sample - organ/tissue - Clinical investigations	AGES	Animal		2	0			

2.12 CLOSTRIDIOSIS

2.12.1 General evaluation of the national situation

2.12.2 Clostridium in foodstuffs

Table Clostridium in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Clostridium	C. difficile
Meat from wild game - land mammals - meat preparation - intended to be eaten cooked - chilled - at retail - domestic production - Surveillance - official controls - objective sampling (Campaign A-803-10)		Single	25g	30	0	

2.12.3 Clostridium in animals

A. C. difficile in Animals

Monitoring system

Sampling strategy

All feces samples or intestines collected in the slaughterhouses in course of the zoonoses monitoring program from cattle, pigs and broiler slaughter batches were forwarded to the national reference laboratory for Clostridium difficile (NRL CD) in the IMED Vienna (AGES) to test for Clostridium difficile.

Frequency of the sampling

Animals at slaughter:

The sampling was distributed by randomization over the whole year 2010.

Type of specimen taken

Other: Animals at slaughter: Caecum content of cattle and pigs and intestinal content of 10 chicks per slaughter batch.

Methods of sampling (description of sampling techniques)

The sampling was performed by official veterinarians carrying out the post-mortem inspection. At time of evisceration a part of the colon (cattle, pigs) or the whole intestines (broiler) were ligated and wrapped in a sterile plastic bag. After cooling down to 4 °C the sample was sent in a hobbox or polystyrene box after adding cooling units to the Institute of Veterinary Diseases Control (IVET) in Graz. Remaining feces/intestinal content after their analyses were collected and sent twice a week to the NRL CD.

Case definition

A sample is defined positive after isolation of Clostridium difficile.

Diagnostic/analytical methods used

The material was directly plated on selective cycloserine-cefoxitin agar plates (C. difficile agar; bioMérieux, Marcy l'Etoile, France), with and without alcohol-shock pre-treatment as described by Borriello and Honour (Borriello SP, Honour P (1981) Simplified procedure for the routine isolation of Clostridium difficile from faeces. J Clin Pathol 34: 1124–1127). Media were incubated anaerobically at 35 ± 2°C for 48 h. In addition, 3–4 g of fecal material was incubated at 35 ± 2°C for 12 days in thioglycolate bouillon (Merck, Darmstadt, Germany) and then subcultured by plating onto C. difficile agar, after alcohol shock, and incubated as described above. Colonies suspicious for C. difficile (based on morphological criteria, Gram stain results and odor) were tested for the common antigen of C. difficile using a latex slide-agglutination test (C. difficile Agglutination Test Kit; Oxoid, Basingstoke, UK). Strains were stored at –80°C in Cryobank tubes (Mast Diagnostics, Bootle, UK) until further testing.

Toxin detection and PCR ribotyping were performed as described by Indra et al. (Indra A, Lassnig H, Baliko N, Much P, Fiedler A, Huhulescu S, Allerberger F (2009) Clostridium difficile: a new zoonotic agent? Wien Klin Wochenschr (2009) 121: 91–95).

Vaccination policy

Vaccination is not performed in Austria

Other preventive measures than vaccination in place

None

Control program/mechanisms

The control program/strategies in place

None

Recent actions taken to control the zoonoses

None

Suggestions to the Community for the actions to be taken

None

Measures in case of the positive findings or single cases

None

Notification system in place

Findings of *Clostridium difficile* in animals must not be reported to authorities in Austria.

Results of the investigation

See respective tables

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

In Austria, *Cl. difficile* can be found in animals at very low levels and cannot be found in food samples therefore the risk of zoonotic transmission for humans seems to be low.

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

Nil

Additional information

Nil

Table Clostridium in Animals

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Clostridium	C. difficile
Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling	IMED Vienna	Animal		501	17	17
Cattle (bovine animals) - meat production animals - calves (under 1 year) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling	IMED Vienna	Animal		15	1	1
Cattle (bovine animals) - meat production animals - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling	IMED Vienna	Animal		211	5	5
Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling ¹⁾	IMED Vienna	Slaughter batch		379	1	1
Pigs - fattening pigs - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling	IMED Vienna	Animal		342	4	4

Comments:

¹⁾ 10 intestines per slaughter batch

2.13 STAPHYLOCOCCUS INFECTION

2.13.1 General evaluation of the national situation

2.13.2 Staphylococcus in foodstuffs

A. Staphylococcus in Food

Monitoring system

Sampling strategy

Food samples were collected according to the sampling plan of the Ministry of Health. In the AGES ILMUs in Graz, Wien and Linz those samples were tested for coagulase positive staphylococci according to EN ISO 6888. All coagulase positive staphylococci were sent to the national reference laboratory for antimicrobial resistance in the IMED Graz to test for the *mecA* gene.

Frequency of the sampling

All over the year.

Type of specimen taken

Other: All different food categories

Definition of positive finding

Detection of *mecA* gene in coagulase positive staphylococci

Diagnostic/analytical methods used

Sample weight: 1 g

Results of the investigation

Out of 4,447 samples 169 coagulase positive staphylococci were isolated. None of the typed staphylococci was a MRSA.

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Bakery products - Surveillance - official controls - objective sampling	*	Single	1g	36	0	0					
Bakery products - cakes - Surveillance - official controls - objective sampling	*	Single	1g	77	1	0					1
Bakery products - pastry - Surveillance - official controls - objective sampling	*	Single	1g	114	1	0					1
Beverages, non-alcoholic - Surveillance - official controls - objective sampling	*	Single	1ml	1	0	0					
Cereals and meals - Surveillance - official controls - objective sampling	*	Single	1g	35	0	0					
Cheeses made from cows' milk - curd - Surveillance - official controls - objective sampling	*	Single	1g	33	3	0					3
Cheeses made from cows' milk - fresh - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	38	2	0					2
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - Surveillance - official controls - objective sampling	*	Single	1g	5	1	0					1
Cheeses made from cows' milk - hard - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	18	0	0					
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - Surveillance - official controls - objective sampling	*	Single	1g	16	0	0					

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	209	2	0					2
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - Surveillance - official controls - objective sampling	*	Single	1g	27	11	0					11
Cheeses made from cows' milk - unspecified - Surveillance - official controls - objective sampling	*	Single	1g	18	0	0					
Cheeses made from cows' milk - unspecified - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	30	0	0					
Cheeses made from goats' milk - fresh - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	6	0	0					
Cheeses made from goats' milk - fresh - made from raw or low heat-treated milk - Surveillance - official controls - objective sampling	*	Single	1g	4	1	0					1
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	3	0	0					
Cheeses made from goats' milk - unspecified - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	18	2	0					2
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - Surveillance - official controls - objective sampling	*	Single	1g	11	0	0					

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Cheeses made from sheep's milk - fresh - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	7	1	0					1
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - Surveillance - official controls - objective sampling	*	Single	1g	5	5	0					5
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	2	0	0					
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - Surveillance - official controls - objective sampling	*	Single	1g	2	0	0					
Cheeses made from sheep's milk - unspecified - Surveillance - official controls - objective sampling	*	Single	1g	1	0	0					
Cheeses made from sheep's milk - unspecified - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	10	0	0					
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - Surveillance - official controls - objective sampling	*	Single	1g	8	3	0					3
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	3	0	0					

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from raw or low heat-treated milk - Surveillance - official controls - objective sampling	*	Single	1g	1	1	0					1
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from pasteurised milk - Surveillance - official controls - objective sampling	*	Single	1g	19	1	0					1
Cheeses, made from mixed milk from cows, sheep and/or goats - unspecified - made from raw or low heat-treated milk - Surveillance - official controls - objective sampling	*	Single	1g	5	2	0					2
Cheeses, made from unspecified milk or other animal milk - Surveillance - official controls - objective sampling	*	Single	1g	7	1	0					1
Cheeses, made from unspecified milk or other animal milk - curd - Surveillance - official controls - objective sampling	*	Single	1g	7	0	0					
Cheeses, made from unspecified milk or other animal milk - fresh - Surveillance - official controls - objective sampling	*	Single	1g	1	0	0					
Cheeses, made from unspecified milk or other animal milk - unspecified - made from raw or low heat-treated milk - Surveillance - official controls - objective sampling	*	Single	1g	3	0	0					
Chocolate - Surveillance - official controls - objective sampling	*	Single	1g	9	0	0					

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Cocoa and cocoa preparations, coffee and tea - Surveillance - official controls - objective sampling	*	Single	1g	3	0	0					
Cocoa and cocoa preparations, coffee and tea - Surveillance - official controls - objective sampling (Sample weight (ml))	*	Single	1ml	5	0	0					
Crustaceans - Surveillance - official controls - objective sampling	*	Single	1g	17	0	0					
Dairy products (excluding cheeses) - Surveillance - official controls - objective sampling	*	Single	1g	15	0	0					
Dairy products (excluding cheeses) - dairy products, not specified - Surveillance - official controls - objective sampling	*	Single	1g	16	0	0					
Dairy products (excluding cheeses) - dairy products, not specified - Surveillance - official controls - objective sampling (Sample weight (ml))	*	Single	1ml	29	0	0					
Dairy products (excluding cheeses) - fermented dairy products - Surveillance - official controls - objective sampling	*	Single	1g	1	0	0					
Dairy products (excluding cheeses) - fermented dairy products - Surveillance - official controls - objective sampling (Sample weight (ml))	*	Single	1ml	15	0	0					
Dairy products (excluding cheeses) - ice-cream - Surveillance - official controls - objective sampling	*	Single	1g	559	9	0					9

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Fish - raw - Surveillance - official controls - objective sampling	*	Single	1g	76	1	0					1
Fishery products, unspecified - Surveillance - official controls - objective sampling	*	Single	1g	43	1	0					1
Foodstuffs intended for special nutritional uses - Surveillance - official controls - objective sampling	*	Single	1g	3	0	0					
Fruits - Surveillance - official controls - objective sampling	*	Single	1g	1	0	0					
Fruits - products - Surveillance - official controls - objective sampling	*	Single	1g	32	0	0					
Infant formula - Surveillance - official controls - objective sampling	*	Single	1g	26	0	0					
Infant formula - Surveillance - official controls - objective sampling (Sample weight (ml))	*	Single	1ml	1	0	0					
Juice - fruit juice - Surveillance - official controls - objective sampling	*	Single	1g	1	0	0					
Juice - fruit juice - Surveillance - official controls - objective sampling (Sample weight (ml))	*	Single	1ml	112	0	0					
Juice - fruit juice - unpasteurised - Surveillance - official controls - objective sampling (Sample weight (ml))	*	Single	1ml	14	0	0					
Juice - mixed juice - Surveillance - official controls - objective sampling (Sample weight (ml))	*	Single	1ml	13	0	0					

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Meat from bovine animals - fresh - Surveillance - official controls - objective sampling	*	Single	1g	40	0	0					
Meat from bovine animals - meat preparation - intended to be eaten cooked - Surveillance - official controls - objective sampling	*	Single	1g	16	1	0					1
Meat from bovine animals - minced meat - intended to be eaten cooked - Surveillance - official controls - objective sampling	*	Single	1g	21	2	0					2
Meat from broilers (Gallus gallus) - fresh - Surveillance - official controls - objective sampling	*	Single	1g	63	11	0					11
Meat from deer (venison) - fresh - Surveillance - official controls - objective sampling	*	Single	1g	32	5	0					5
Meat from deer (venison) - meat preparation - Surveillance - official controls - objective sampling	*	Single	1g	2	1	0					1
Meat from other animal species or not specified - Surveillance - official controls - objective sampling	*	Single	1g	17	0	0					
Meat from pig - fresh - Surveillance - official controls - objective sampling	*	Single	1g	63	2	0					2
Meat from pig - meat preparation - intended to be eaten cooked - Surveillance - official controls - objective sampling	*	Single	1g	121	8	0					8
Meat from pig - meat products - cooked, ready-to-eat - Surveillance - official controls - objective sampling	*	Single	1g	48	1	0					1

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Meat from pig - meat products - raw and intended to be eaten raw - Surveillance - official controls - objective sampling	*	Single	1g	2	0	0					
Meat from pig - meat products - raw but intended to be eaten cooked - Surveillance - official controls - objective sampling	*	Single	1g	4	0	0					
Meat from pig - minced meat - intended to be eaten cooked - Surveillance - official controls - objective sampling	*	Single	1g	3	0	0					
Meat from pig - offal - Surveillance - official controls - objective sampling	*	Single	1g	2	0	0					
Meat from poultry, unspecified - fresh - Surveillance - official controls - objective sampling	*	Single	1g	8	1	0					1
Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - Surveillance - official controls - objective sampling	*	Single	1g	83	22	0					22
Meat from poultry, unspecified - meat products - Surveillance - official controls - objective sampling	*	Single	1g	1	0	0					
Meat from poultry, unspecified - meat products - cooked, ready-to-eat - Surveillance - official controls - objective sampling	*	Single	1g	25	0	0					
Meat from poultry, unspecified - meat products - raw and intended to be eaten raw - Surveillance - official controls - objective sampling	*	Single	1g	1	0	0					

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Meat from rabbit - fresh - Surveillance - official controls - objective sampling	*	Single	1g	3	0	0					
Meat from sheep - fresh - Surveillance - official controls - objective sampling	*	Single	1g	5	0	0					
Meat from sheep - meat preparation - Surveillance - official controls - objective sampling	*	Single	1g	5	0	0					
Meat from turkey - fresh - Surveillance - official controls - objective sampling	*	Single	1g	24	1	0					1
Meat from wild boar - fresh - Surveillance - official controls - objective sampling	*	Single	1g	8	0	0					
Meat from wild game - birds - fresh - Surveillance - official controls - objective sampling	*	Single	1g	3	0	0					
Meat, mixed meat - minced meat - intended to be eaten cooked - Surveillance - official controls - objective sampling	*	Single	1g	76	7	0					7
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - Surveillance - official controls - objective sampling	*	Single	1g	31	4	0					4
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - Surveillance - official controls - objective sampling	*	Single	1g	196	4	0					4

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - fermented sausages - Surveillance - official controls - objective sampling	*	Single	1g	8	0	0					
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - raw but intended to be eaten cooked - Surveillance - official controls - objective sampling	*	Single	1g	3	0	0					
Milk from other animal species or unspecified - raw - Surveillance - official controls - objective sampling	*	Single	1ml	2	0	0					
Milk, cows' - raw - Surveillance - official controls - objective sampling	*	Single	1ml	9	0	0					
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products - Surveillance - official controls - objective sampling	*	Single	1ml	14	0	0					
Milk, goats' - raw - Surveillance - official controls - objective sampling	*	Single	1ml	2	0	0					
Milk, sheep's - raw - Surveillance - official controls - objective sampling	*	Single	1ml	2	0	0					
Mushrooms - Surveillance - official controls - objective sampling	*	Single	1g	11	0	0					
Nuts and nut products - Surveillance - official controls - objective sampling	*	Single	1g	33	0	0					

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Other food - Surveillance - official controls - objective sampling	*	Single	1g	74	1	0					1
Other food of non-animal origin - Surveillance - official controls - objective sampling	*	Single	1g	18	0	0					
Other processed food products and prepared dishes - Surveillance - official controls - objective sampling	*	Single	1g	1222	30	0					30
Other processed food products and prepared dishes - Surveillance - official controls - objective sampling (Sample weight (ml))	*	Single	1ml	6	0	0					
Other processed food products and prepared dishes - pasta - Surveillance - official controls - objective sampling	*	Single	1g	138	17	0					17
Ready-to-eat salads - Surveillance - official controls - objective sampling	*	Single	1g	111	1	0					1
Sauce and dressings - Surveillance - official controls - objective sampling	*	Single	1g	4	0	0					
Sauce and dressings - mayonnaise - Surveillance - official controls - objective sampling	*	Single	1g	4	0	0					
Sauce and dressings - mayonnaise - Surveillance - official controls - objective sampling (Sample weight (ml))	*	Single	1ml	1	0	0					
Seeds, dried - Surveillance - official controls - objective sampling	*	Single	1g	33	0	0					

Table Staphylococcus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcus	Total units positive for S. aureus, methicillin resistant (MRSA)	S. aureus, methicillin resistant (MRSA) - spa-type t011	S. aureus, methicillin resistant (MRSA) - spa-type t108	S. aureus, methicillin resistant (MRSA) - spa-type t034	S. aureus, methicillin resistant (MRSA) - MRSA, unspecified	Staphylococcus spp., unspecified
Soups - Surveillance - official controls - objective sampling	*	Single	1g	2	0	0					
Spices and herbs - Surveillance - official controls - objective sampling	*	Single	1g	15	0	0					
Sweets - Surveillance - official controls - objective sampling	*	Single	1g	1	0	0					
Vegetables - Surveillance - official controls - objective sampling	*	Single	1g	35	0	0					
Vegetables - products - Surveillance - official controls - objective sampling	*	Single	1g	25	0	0					

Footnote:

* AGES ILMU (Graz, Linz, Vienna)

2.14 Q-FEVER

2.14.1 General evaluation of the national situation

2.14.2 Coxiella (Q-fever) in animals

A. C. burnetii in Animals

Monitoring system

Sampling strategy

There is no official surveillance for *Coxiella burnetii* in animals.

Diagnostic/analytical methods used

The diagnostic method is the complement fixation reaction, detecting phase 1 and phase 2 antigens. Organs and swabs are tested by real time PCR.

Vaccination policy

No vaccination.

Other preventive measures than vaccination in place

Nil

Control program/mechanisms

The control program/strategies in place

Nil

Recent actions taken to control the zoonoses

Nil

Notification system in place

Q-fever in animals is not a notifiable disease

Results of the investigation

see tables

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

Q-fever in humans is not a notifiable disease. In Austria the number of sheep per holding is low (3.9 animals per holding in average) compared to countries that have a problem with Q-fever; therefore no change of the epidemiological situation in Austria is expected.

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

Nil

Table Coxiella burnetii (Q fever) in animals

	Source of information	Sampling unit	Units tested	Total units positive for Coxiella (Q-fever)	C. burnetii
Cattle (bovine animals) - at farm - animal sample - blood - Clinical investigations ¹⁾	AGES IVET	Animal	582	12	12
Cattle (bovine animals) - at farm - animal sample - organ/tissue - Clinical investigations ²⁾	AGES IVET	Animal	6	0	0
Goats - at farm - animal sample - blood - Clinical investigations ³⁾	AGES IVET	Animal	109	20	20
Goats - at farm - animal sample - milk - Clinical investigations ⁴⁾	AGES IVET	Animal	20	2	2
Goats - at farm - animal sample - organ/tissue - Clinical investigations ⁵⁾	AGES IVET	Animal	5	2	2
Sheep - at farm - animal sample - blood - Clinical investigations ⁶⁾	AGES IVET	Animal	135	28	28
Sheep - at farm - animal sample - organ/tissue - Clinical investigations ⁷⁾	AGES IVET	Animal	30	12	12

Comments:

¹⁾ Coxiella birnetii Ak²⁾ Coxiella birnetii³⁾ Coxiella birnetii Ak⁴⁾ Coxiella birnetii Ak⁵⁾ Coxiella birnetii⁶⁾ Coxiella birnetii Ak

Table Coxiella burnetii (Q fever) in animals

Comments:

⁷⁾ Coxiella birnetii

2.15 VIRAL GASTROENTERITIS

2.15.1 General evaluation of the national situation

2.15.2 Calicivirus in foodstuffs

A. norovirus (Norwalk-like virus) in Food Live bivalve molluscs - oysters - non-depurated - at retail - imported - Surveillance - official controls - objective sampling (campaign A-022-10)

Monitoring system

Sampling strategy

Random sampling is done according to the sampling plan of the Ministry of Health. Samples are taken at retail outlets by competent authorities.

Frequency of the sampling

Investigation period: April - July

Type of specimen taken

Other: Live bivalve molluscs – oysters non-depurated

Methods of sampling (description of sampling techniques)

Sample weight: 5 g

Definition of positive finding

Detection of Norovirus in 5 g

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs

Results of the investigation

25 samples tested, 0-time positive for Norovirus

Additional information

Samples were also tested for Hepatitis-A virus

Table Calicivirus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Calicivirus	norovirus (Norwalk-like virus)
Live bivalve molluscs - oysters - non-depurated - at retail - imported - Surveillance - official controls - objective sampling (Campaign A-022-10)	AGES ILMU	Single	5g	25	0	

2.16 HEPATITIS

2.16.1 General evaluation of the national situation

2.16.2 Hepatitis virus in foodstuffs

A. Hepatitis A virus in Food Vegetables - products - dried - at retail - imported - Surveillance - official controls - objective sampling ((half-dried tomatoes) campaign A-017-10)

Monitoring system

Sampling strategy

Random sampling is done according to the sampling plan of the Ministry of Health. Samples are taken at retail outlets by competent authorities.

Frequency of the sampling

Investigation period: March

Type of specimen taken

Other: vegetable products dried (half-dried tomatoes)

Methods of sampling (description of sampling techniques)

Sample weight: 5 g

Definition of positive finding

Detection of Hepatitis-A virus in 5 g

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs

Results of the investigation

41 samples tested, 0-time positive for Hepatitis-A virus

Additional information

none

B. Hepatitis A virus in Food Live bivalve molluscs - oysters - non-depurated - at retail - imported - Surveillance - official controls - objective sampling (campaign A-022-10)

Monitoring system

Sampling strategy

Random sampling is done according to the sampling plan of the Ministry of Health. Samples are taken at retail outlets by competent authorities.

Frequency of the sampling

Investigation period: April - July

Type of specimen taken

Other: Live bivalve molluscs – oysters non-depurated

Methods of sampling (description of sampling techniques)

Sample weight: 5 g

Definition of positive finding

Detection of Norovirus in 5 g

Control program/mechanisms

Recent actions taken to control the zoonoses

Follow-up surveillance programs

Results of the investigation

25 samples tested, 0-time positive for Hepatitis-A virus

Additional information

Samples were also tested for Norovirus

Table Hepatitis virus in Food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Hepatitis virus	Hepatitis A virus
Live bivalve molluscs - oysters - non-depurated - at retail - imported - Surveillance - official controls - objective sampling (Campaign A-022-10)	AGES ILMU	Single	5g	25	0	
Vegetables - products - dried - at retail - imported - Surveillance - official controls - objective sampling ((half dried tomatoes) Campaign A-017-10)	AGES ILMU	Single	5g	41	0	

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

A. Escherichia coli general evaluation

History of the disease and/or infection in the country

Resistance monitoring of faeces isolates from slaughtered animals was started in Austria in 2004 and has been continued annually.

Recent actions taken to control the zoonoses

The Austrian wide monitoring program on the trends of antimicrobial resistance of E. coli in broiler slaughter batches, bovine animals and pigs has been implemented according to the directive 2003/99/EC of the European Parliament and the Council of 17 November 2003 in the National Order Überwachungsprogramme-Verordnung (as amended). The sampling was carried out from January to December 2010 in slaughterhouses.

Suggestions to the Community for the actions to be taken

Europe wide harmonized standards for antimicrobial resistance monitoring are be highly welcome.

Additional information

The results are published annually in the Report on Antimicrobial Resistance in Austria (AURES).

3.1.2 Antimicrobial resistance in Escherichia coli, non-pathogenic

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	≤0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16
Amphenicols - Chloramphenicol	16	126	0																	2		39		77		8
Tetracyclines - Tetracycline	8	126	6															23		88		8		1		
Fluoroquinolones - Ciprofloxacin	0.03	126	2	12		104		8				2														
Quinolones - Nalidixic acid	16	126	1																	93		29		3		
Trimethoprim	2	126	0											42		71		13								
Aminoglycosides - Streptomycin	16	126	5																	4		93		23		1
Aminoglycosides - Gentamicin	2	126	0											58		64		4								
Penicillins - Ampicillin	8	126	1															6		38		73		8		1
Cephalosporins - Cefotaxim	0.25	126	0							108		18														
Sulphonamides - Sulfamethoxazol	256	126	4																					22		29

E.coli, non-pathogenic, unspecified	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	256

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E.coli, non-pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Tetracyclines - Tetracycline		1		3	2													0.5	64
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid				1														2	256
Trimethoprim																		0.25	16
Aminoglycosides - Streptomycin		4		1														2	256
Aminoglycosides - Gentamicin																		0.25	32
Penicillins - Ampicillin																		0.5	64
Cephalosporins - Cefotaxim																		0.06	128
Sulphonamides - Sulfamethoxazol		30		33		7		1					4					8	1024

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified	Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	5	2																			1		2			
Tetracyclines - Tetracycline	8	5	3																	2							
Fluoroquinolones - Ciprofloxacin	0.03	5	0	1		4																					
Quinolones - Nalidixic acid	16	5	0																	5							
Trimethoprim	2	5	1											3		1											
Aminoglycosides - Streptomycin	16	5	3																			2					
Aminoglycosides - Gentamicin	2	5	0											2		3											
Penicillins - Ampicillin	8	5	3																			2					
Cephalosporins - Cefotaxim	0.25	5	0							4		1															
Sulphonamides - Sulfamethoxazol	256	5	3																					1		1	

E.coli, non-pathogenic, unspecified	Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol							2											2	256
Tetracyclines - Tetracycline				2	1													0.5	64

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E.coli, non-pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Fluoroquinolones - Ciprofloxacin																		0.008	8
Quinolones - Nalidixic acid																		2	256
Trimethoprim	1																	0.25	16
Aminoglycosides - Streptomycin				1				1	1									2	256
Aminoglycosides - Gentamicin																		0.25	32
Penicillins - Ampicillin					3													0.5	64
Cephalosporins - Cefotaxim																		0.06	128
Sulphonamides - Sulfamethoxazol													3					8	1024

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (slaughter batch)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	171	12																	1		33		107		18	
Tetracyclines - Tetracycline	8	171	48															10		100		13					
Fluoroquinolones - Ciprofloxacin	0.03	171	137	12		20		2		3		19		51		26		10		1		5		19	3		
Quinolones - Nalidixic acid	16	171	135																	30		5				1	
Trimethoprim	2	171	41											48		71		11									
Aminoglycosides - Streptomycin	16	171	64																	1		60		32		14	
Aminoglycosides - Gentamicin	2	171	7											60		98		6				1				1	
Penicillins - Ampicillin	8	171	56															4		44		60		7			
Cephalosporins - Cefotaxim	0.25	171	1							119		45		6										1			
Sulphonamides - Sulfamethoxazol	256	171	68																					16		33	

E.coli, non-pathogenic, unspecified	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (slaughter batch)																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest
Amphenicols - Chloramphenicol		3		2		2	5											2	256
Tetracyclines - Tetracycline				15	33													0.5	64
Fluoroquinolones - Ciprofloxacin																		0.008	8

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E.coli, non-pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (slaughter batch)																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Quinolones - Nalidixic acid		1		27		47		13	47									2	256
Trimethoprim	41																	0.25	16
Aminoglycosides - Streptomycin		19		16		17		11	1									2	256
Aminoglycosides - Gentamicin		2	3															0.25	32
Penicillins - Ampicillin		1		1	54													0.5	64
Cephalosporins - Cefotaxim																		0.06	128
Sulphonamides - Sulfamethoxazol		42		9		3				1			67					8	1024

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified	Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	50	0																	1		14		33		2	
Tetracyclines - Tetracycline	8	50	7															9		34							
Fluoroquinolones - Ciprofloxacin	0.03	50	2	6		42				2																	
Quinolones - Nalidixic acid	16	50	0																	41		9					
Trimethoprim	2	50	1											15		25		9									
Aminoglycosides - Streptomycin	16	50	6																	2		34		7		1	
Aminoglycosides - Gentamicin	2	50	0											22		26		1		1							
Penicillins - Ampicillin	8	50	0															2		20		28					
Cephalosporins - Cefotaxim	0.25	50	0							45		4		1													
Sulphonamides - Sulfamethoxazol	256	50	6																					9		10	

E.coli, non-pathogenic, unspecified	Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		2	256
Tetracyclines - Tetracycline					7													0.5	64
Fluoroquinolones - Ciprofloxacin																		0.008	8

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E.coli, non-pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Quinolones - Nalidixic acid																		2	256
Trimethoprim	1																	0.25	16
Aminoglycosides - Streptomycin		3		3														2	256
Aminoglycosides - Gentamicin																		0.25	32
Penicillins - Ampicillin																		0.5	64
Cephalosporins - Cefotaxim																		0.06	128
Sulphonamides - Sulfamethoxazol		13		10		1		1					6					8	1024

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified	Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	16	169	10																	1		34		111		13	
Tetracyclines - Tetracycline	8	169	97															5		55		10		2		1	
Fluoroquinolones - Ciprofloxacin	0.03	169	8	22		123		16				2		4		1								1			
Quinolones - Nalidixic acid	16	169	9																	103		54		3			
Trimethoprim	2	169	25											39		92		12		1							
Aminoglycosides - Streptomycin	16	169	96																	1		40		22		10	
Aminoglycosides - Gentamicin	2	169	2											56		99		11		1							
Penicillins - Ampicillin	8	169	29															7		68		61		4			
Cephalosporins - Cefotaxim	0.25	169	2							142		25															
Sulphonamides - Sulfamethoxazol	256	169	54																					18		32	

E.coli, non-pathogenic, unspecified	Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																			
	Isolates out of a monitoring program (yes/no)																			
	Number of isolates available in the laboratory																			
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol			4		2		1	3											2	256
Tetracyclines - Tetracycline			7		29	60													0.5	64
Fluoroquinolones - Ciprofloxacin																			0.008	8

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E.coli, non-pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Quinolones - Nalidixic acid		1		3		1		3	1									2	256
Trimethoprim	25																	0.25	16
Aminoglycosides - Streptomycin		20		43		25		8										2	256
Aminoglycosides - Gentamicin		2																0.25	32
Penicillins - Ampicillin		1		2	26													0.5	64
Cephalosporins - Cefotaxim		1		1														0.06	128
Sulphonamides - Sulfamethoxazol		36		20		7		2				2	52					8	1024

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

Test Method Used		Standard methods used for testing		
			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	
Tetracyclines	Tetracycline		8	
Fluoroquinolones	Ciprofloxacin		0.03	
Quinolones	Nalidixic acid		16	
Trimethoprim	Trimethoprim		2	
Sulphonamides	Sulphonamides		256	
Aminoglycosides	Streptomycin		16	
	Gentamicin		2	
Cephalosporins	Cefotaxim		0.25	
Penicillins	Ampicillin		8	

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

Test Method Used		Standard methods used for testing		
			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	
Tetracyclines	Tetracycline		8	
Fluoroquinolones	Ciprofloxacin		0.03	
Quinolones	Nalidixic acid		16	
Trimethoprim	Trimethoprim		2	
Sulphonamides	Sulphonamides		256	
Aminoglycosides	Streptomycin		16	
	Gentamicin		2	
Cephalosporins	Cefotaxim		0.25	
Penicillins	Ampicillin		8	

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

Test Method Used		Standard methods used for testing		
			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	
Tetracyclines	Tetracycline		8	
Fluoroquinolones	Ciprofloxacin		0.03	
Quinolones	Nalidixic acid		16	
Trimethoprim	Trimethoprim		2	
Sulphonamides	Sulphonamides		256	
Aminoglycosides	Streptomycin		16	
	Gentamicin		2	
Cephalosporins	Cefotaxim		0.25	
Penicillins	Ampicillin		8	

3.2 ENTEROCOCCUS, NON-PATHOGENIC

3.2.1 General evaluation of the national situation

3.2.2 Antimicrobial resistance in Enterococcus, non-pathogenic isolates

A. Antimicrobial resistance of Enterococcus spp., unspecified in Animals All animals - farmed - at slaughterhouse - Monitoring - official sampling - objective sampling

Sampling strategy used in monitoring

Frequency of the sampling

A sampling plan was created according to the federal monitoring program „Durchführungserlass Zoonosenmonitoring 2010 - Überwachung ausgewählter Zoonosen und Antibiotikaresistenzen (BMG-74600/0262-II/B/5/2009)“. The sampling plan for enterococci includes cattle, pigs and broiler slaughter batches.

Type of specimen taken

Enterococci are isolated from the caecum of slaughtered cattle, pigs and broiler. 170 *E. faecalis* or *E. faecium* strains per animal species are tested for their antimicrobial susceptibility. The caecum from one cow or pig or the whole intestines from ten slaughtered broilers within a single slaughter batch at each slaughterhouse are collected.

Methods of sampling (description of sampling techniques)

The intestines were refrigerated to 4 °C and samples were sent to the Institute of Veterinary Disease Control (IVET) in Graz, where each pathogen was isolated and further characterized. The Institute of Medical Microbiology and Hygiene (IMED) in Graz performed the antimicrobial susceptibility testing for all strains.

Procedures for the selection of isolates for antimicrobial testing

The number of samples was calculated by experts of the Division for Data, Statistics and Risk Assessment of the AGES based on the expected prevalence of *Enterococcus faecalis* and *E. faecium* in the different animal species (cattle, pigs, broiler flocks). From each sample up to five enterococci were differentiated. Only *E. faecalis* and *E. faecium* strains were sent to the IMED Graz for antimicrobial susceptibility testing.

Methods used for collecting data

All information concerning the tested animals and the sampled slaughterhouses were recorded in a questionnaire. In the laboratory, the data were entered into a database and later analysed in Microsoft® Excel tables.

Laboratory methodology used for identification of the microbial isolates

The samples are injected into the Citrate Azide Tween Carbonate Agar (CATC-AGAR, Merck Art.Nr. 1.10279) and incubated at 37 °C ± 1°C for 24 h. Then, the medium is left at room temperature for another 24 hrs. Potential colonies are subcultivated on blood agar (Oxoid Nr. CM0055, 5% Sheep blood) for 24 h at 37 ± 1 °C which results in the differentiation of *E. faecalis* and *E. faecium* through Gram's method, Catalase Test, Arabinose- and Pyruvate-breakdown.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

E. faecalis/faecium samples isolated from cattle, pigs and broiler slaughter batches are tested for antimicrobial resistance against gentamicin, streptomycin, vancomycin, ciprofloxacin, erythromycin, linezolid, ampicillin, chloramphenicol, synercid, tetracycline, tigecycline and daptomycin.

Cut-off values used in testing

See respective tables

Preventive measures in place

None

Control program/mechanisms

The control program/strategies in place

None

Recent actions taken to control the zoonoses

None

Suggestions to the Community for the actions to be taken

None

Measures in case of the positive findings or single cases

None

Notification system in place

None

Results of the investigation

See respective tables. National evaluation of the recent situation, the trends and sources of infection is not available yet; a census on the use of antimicrobials in veterinary medicine is planned.

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

Not yet available

Additional information

Nil

Table Antimicrobial susceptibility testing of *E. faecalis* in Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E. faecalis	Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	32	8	0																			6		2				
Tetracyclines - Tetracycline	4	8	3													4				1						1		
Fluoroquinolones - Ciprofloxacin	4	8	0													4		4										
Aminoglycosides - Streptomycin	512	8	0																									
Aminoglycosides - Gentamicin	32	8	0																					2		6		
Penicillins - Ampicillin	4	8	0											1				6		1								
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	8	0													3		5										
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	8	0															6		2								
Macrolides - Erythromycin	4	8	0															5		2		1						
Oxazolidines - Linezolid	4	8	0															5		3								
Streptogramins - Quinupristin/Dalfopristin	32	8	0													1						2		5				

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Antimicrobials:																		4	256
Amphenicols - Chloramphenicol																		4	256
Tetracyclines - Tetracycline				2														0.5	64

Table Antimicrobial susceptibility testing of *E. faecalis* in Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Antimicrobials:																			
Fluoroquinolones - Ciprofloxacin																		0.25	32
Aminoglycosides - Streptomycin				3		4		1										16	2048
Aminoglycosides - Gentamicin																		4	2048
Penicillins - Ampicillin																		0.25	32
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin																		0.12	16
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin																		1	64
Macrolides - Erythromycin																		0.5	64
Oxazolidines - Linezolid																		0.25	32
Streptogramins - Quinupristin/Dalfopristin																		0.5	128

Table Antimicrobial susceptibility testing of *E. faecium* in Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E. faecium	Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	32	17	0																			2		15				
Tetracyclines - Tetracycline	4	17	1													11		3		2								
Fluoroquinolones - Ciprofloxacin	4	17	1													1		5		1		9		1				
Aminoglycosides - Streptomycin	128	17	1																							2		
Aminoglycosides - Gentamicin	32	17	0																			2		8		7		
Penicillins - Ampicillin	4	17	0													2		8		7								
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	17	0															13		3		1						
Macrolides - Erythromycin	4	17	1													3				1		12		1				
Streptogramins - Quinupristin/Dalfopristin	1	17	9													6		2		4		4		1				

E. faecium	Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		4	256
Tetracyclines - Tetracycline				1														0.5	64
Fluoroquinolones - Ciprofloxacin																		0.25	32
Aminoglycosides - Streptomycin				10		4		1										16	2048

Table Antimicrobial susceptibility testing of *E. faecium* in Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Aminoglycosides - Gentamicin																		4	2048
Penicillins - Ampicillin																		0.25	32
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin																		1	64
Macrolides - Erythromycin																		0.5	64
Streptogramins - Quinupristin/Dalfopristin																		0.5	128

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

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

E. faecium	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (Slaughter batch)																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	32	15	0																			9		3		1	
Tetracyclines - Tetracycline	4	15	11													4										2	
Fluoroquinolones - Ciprofloxacin	4	15	1															3		3		8		1			
Aminoglycosides - Streptomycin	128	15	6																								
Aminoglycosides - Gentamicin	32	15	0																			2		9		4	
Penicillins - Ampicillin	4	15	1											1		2		2		7		2		1			
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	15	0															11		4							
Macrolides - Erythromycin	4	15	8															1		1		5					
Streptogramins - Quinupristin/Dalfopristin	1	15	10													4		1				6		4			

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (Slaughter batch)																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Antimicrobials:																			
Amphenicols - Chloramphenicol		2																4	256
Tetracyclines - Tetracycline				4	5													0.5	64
Fluoroquinolones - Ciprofloxacin																		0.25	32
Aminoglycosides - Streptomycin		1		4		4		1							5			16	2048

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

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (Slaughter batch)																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Aminoglycosides - Gentamicin																		4	2048
Penicillins - Ampicillin																		0.25	32
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin																		1	64
Macrolides - Erythromycin		1			7													0.5	64
Streptogramins - Quinupristin/Dalfopristin																		0.5	128

Table Antimicrobial susceptibility testing of E. faecium in Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E. faecium	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	32	39	0																			10		27		2		
Tetracyclines - Tetracycline	4	39	1													31		5		2								
Fluoroquinolones - Ciprofloxacin	4	39	5											1		4		8		8		13		5				
Aminoglycosides - Streptomycin	128	39	0																							2		
Aminoglycosides - Gentamicin	32	39	0																			8		20		11		
Penicillins - Ampicillin	4	39	0											1		7		14		15		2						
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	39	0															30		4		5						
Macrolides - Erythromycin	4	39	4													6		2		8		19		4				
Streptogramins - Quinupristin/Dalfopristin	1	39	21													13		5		5		15		1				

E. faecium	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		4	256
Tetracyclines - Tetracycline					1													0.5	64
Fluoroquinolones - Ciprofloxacin																		0.25	32
Aminoglycosides - Streptomycin		4		26		7												16	2048

Table Antimicrobial susceptibility testing of *E. faecium* in Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Aminoglycosides - Gentamicin																		4	2048
Penicillins - Ampicillin																		0.25	32
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin																		1	64
Macrolides - Erythromycin																		0.5	64
Streptogramins - Quinupristin/Dalfopristin																		0.5	128

Table Antimicrobial susceptibility testing of *E. faecium* in Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																											
	Cut-off value	N	n	≤0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Antimicrobials:																												
Amphenicols - Chloramphenicol	32	77	0																			37		37		2		
Tetracyclines - Tetracycline	4	77	13													59		2		3							1	
Fluoroquinolones - Ciprofloxacin	4	77	4											1		13		47		4		8		4				
Aminoglycosides - Streptomycin	128	77	3																									
Aminoglycosides - Gentamicin	32	77	0																			1		48		28		
Penicillins - Ampicillin	4	77	0											3		3		22		48		1						
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	77	0															69		8								
Macrolides - Erythromycin	4	77	38													5		5		3		26		35		2		
Streptogramins - Quinupristin/Dalfopristin	1	77	69													4		4		12		46		11				

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Antimicrobials:																			
Amphenicols - Chloramphenicol		1																4	256
Tetracyclines - Tetracycline				4	8													0.5	64
Fluoroquinolones - Ciprofloxacin																		0.25	32
Aminoglycosides - Streptomycin				42		32						1			2			16	2048

Table Antimicrobial susceptibility testing of *E. faecium* in Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Aminoglycosides - Gentamicin																		4	2048
Penicillins - Ampicillin																		0.25	32
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin																		1	64
Macrolides - Erythromycin					1													0.5	64
Streptogramins - Quinupristin/Dalfopristin																		0.5	128

Table Antimicrobial susceptibility testing of *E. faecalis* in Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E. faecalis	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	32	78	2																			22		53		1	
Tetracyclines - Tetracycline	4	78	12													58		6		2							
Fluoroquinolones - Ciprofloxacin	4	78	0											1		14		48		15							
Aminoglycosides - Streptomycin	512	78	2																								
Aminoglycosides - Gentamicin	32	78	0																					11		65	
Penicillins - Ampicillin	4	78	0													4		50		24							
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	78	0													11		54		13							
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	78	0															48		28		2					
Macrolides - Erythromycin	4	78	4													24		15		20		15		1			
Oxazolidines - Linezolid	4	78	0															18		60							
Streptogramins - Quinupristin/Dalfopristin	32	78	0													2		1		1		2		60		12	

E. faecalis	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																			
	Isolates out of a monitoring program (yes/no)																			
	Number of isolates available in the laboratory																			
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest	
Amphenicols - Chloramphenicol				2														4	256	
Tetracyclines - Tetracycline		2		5	5													0.5	64	

Table Antimicrobial susceptibility testing of *E. faecalis* in Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - adult cattle over 2 years - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Antimicrobials:																			
Fluoroquinolones - Ciprofloxacin																		0.25	32
Aminoglycosides - Streptomycin				4		65		6		1					2			16	2048
Aminoglycosides - Gentamicin		2																4	2048
Penicillins - Ampicillin																		0.25	32
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin																		0.12	16
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin																		1	64
Macrolides - Erythromycin					3													0.5	64
Oxazolidines - Linezolid																		0.25	32
Streptogramins - Quinupristin/Dalfopristin																		0.5	128

Table Antimicrobial susceptibility testing of *E. faecium* in Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																											
	Cut-off value	N	n	≤0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	32	1	0																					1				
Tetracyclines - Tetracycline	4	1	0													1												
Fluoroquinolones - Ciprofloxacin	4	1	1																					1				
Aminoglycosides - Streptomycin	128	1	0																									
Aminoglycosides - Gentamicin	32	1	0																								1	
Penicillins - Ampicillin	4	1	0															1										
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	1	0															1										
Macrolides - Erythromycin	4	1	0																			1						
Streptogramins - Quinupristin/Dalfopristin	1	1	1																					1				

<div>E. faecium</div> <div>Isolates out of a monitoring program (yes/no)</div> <div>Number of isolates available in the laboratory</div> <div>Antimicrobials:</div>	Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol																		4	256
Tetracyclines - Tetracycline																		0.5	64
Fluoroquinolones - Ciprofloxacin																		0.25	32
Aminoglycosides - Streptomycin				1														16	2048

Table Antimicrobial susceptibility testing of *E. faecium* in Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E. faecium Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - calves (under 1 year) - for slaughter - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Aminoglycosides - Gentamicin																		4	2048
Penicillins - Ampicillin																		0.25	32
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin																		1	64
Macrolides - Erythromycin																		0.5	64
Streptogramins - Quinupristin/Dalfopristin																		0.5	128

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

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

E. faecalis	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (Slaughter batch)																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Amphenicols - Chloramphenicol	32	172	11																			80		78				
Tetracyclines - Tetracycline	4	172	101													66		5						2		1		
Fluoroquinolones - Ciprofloxacin	4	172	0													42		126		4								
Aminoglycosides - Streptomycin	512	172	43																									
Aminoglycosides - Gentamicin	32	172	0																			1		23		143		
Penicillins - Ampicillin	4	172	0											1		11		133		27								
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	172	1									1		1		32		126		10		1		1				
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	172	2															68		97		5		2				
Macrolides - Erythromycin	4	172	98													23		21		22		8		25		6		
Oxazolidines - Linezolid	4	172	0															118		54								
Streptogramins - Quinupristin/Dalfopristin	32	172	0													3				1		6		127		32		

E. faecalis	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (Slaughter batch)																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol		3		10		1												4	256
Tetracyclines - Tetracycline		20		35	43													0.5	64

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

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling (Slaughter batch)																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Fluoroquinolones - Ciprofloxacin																		0.25	32
Aminoglycosides - Streptomycin				9		109		11							43			16	2048
Aminoglycosides - Gentamicin		5																4	2048
Penicillins - Ampicillin																		0.25	32
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin																		0.12	16
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin																		1	64
Macrolides - Erythromycin		4		4	59													0.5	64
Oxazolidines - Linezolid																		0.25	32
Streptogramins - Quinupristin/Dalfopristin		3																0.5	128

Table Antimicrobial susceptibility testing of *E. faecalis* in Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																											
	Cut-off value	N	n	≤0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16		
Antimicrobials:																												
Amphenicols - Chloramphenicol	32	131	14																			38		67		8		
Tetracyclines - Tetracycline	4	131	81													45		4		1				1				
Fluoroquinolones - Ciprofloxacin	4	131	1											1		20		96		12		1						
Aminoglycosides - Streptomycin	512	131	31																									
Aminoglycosides - Gentamicin	32	131	6																			2		11		106		
Penicillins - Ampicillin	4	131	0											2		7		82		40								
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	131	0													4		96		28		3						
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	131	0															91		39		1						
Macrolides - Erythromycin	4	131	40													20		24		30		17		2				
Oxazolidines - Linezolid	4	131	0															48		82		1						
Streptogramins - Quinupristin/Dalfopristin	32	131	0															1		2		4		93		30		

E. faecalis	Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	Isolates out of a monitoring program (yes/no)																		
	Number of isolates available in the laboratory																		
Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol		4		4		10												4	256
Tetracyclines - Tetracycline				34	46													0.5	64

Table Antimicrobial susceptibility testing of *E. faecalis* in Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Pigs - fattening pigs - unspecified - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Antimicrobials:																			
Fluoroquinolones - Ciprofloxacin		1																0.25	32
Aminoglycosides - Streptomycin				6		79		15							31			16	2048
Aminoglycosides - Gentamicin		6												4	2			4	2048
Penicillins - Ampicillin																		0.25	32
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin																		0.12	16
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin																		1	64
Macrolides - Erythromycin		2		4	32													0.5	64
Oxazolidines - Linezolid																		0.25	32
Streptogramins - Quinupristin/Dalfopristin		1																0.5	128

Table Antimicrobial susceptibility testing of E. faecalis in Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E. faecalis	Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
	Antimicrobials:	Cut-off value	N	n	<=0.008	>0.008	0.015	>0.016	0.03	>0.03	0.06	>0.06	0.12	>0.12	0.25	>0.25	0.5	>0.5	1	>1	2	>2	4	>4	8	>8	16	
Amphenicols - Chloramphenicol	32	26	1																			9		16				
Tetracyclines - Tetracycline	4	26	6													20												
Fluoroquinolones - Ciprofloxacin	4	26	0											1		1		22		2								
Aminoglycosides - Streptomycin	512	26	1																									
Aminoglycosides - Gentamicin	32	26	0																					4		21		
Penicillins - Ampicillin	4	26	0											1				18		7								
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	26	0									1				4		16		5								
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	26	0															14		12								
Macrolides - Erythromycin	4	26	3													5		6		5		7						
Oxazolidines - Linezolid	4	26	0													1		10		15								
Streptogramins - Quinupristin/Dalfopristin	32	26	0																	1		1		18		5		

E. faecalis	Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																			
	Isolates out of a monitoring program (yes/no)																			
	Number of isolates available in the laboratory																			
	Antimicrobials:	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Amphenicols - Chloramphenicol							1												4	256
Tetracyclines - Tetracycline			1		1	4													0.5	64

Table Antimicrobial susceptibility testing of *E. faecalis* in Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

E. faecalis Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Cattle (bovine animals) - young cattle (1-2 years) - at slaughterhouse - animal sample - caecum - Monitoring - official sampling - objective sampling																		
	>16	32	>32	64	>64	128	>128	256	>256	512	>512	1024	>1024	2048	>2048	4096	>4096	lowest	highest
Antimicrobials:																			
Fluoroquinolones - Ciprofloxacin																		0.25	32
Aminoglycosides - Streptomycin				2		21		2							1			16	2048
Aminoglycosides - Gentamicin		1																4	2048
Penicillins - Ampicillin																		0.25	32
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin																		0.12	16
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin																		1	64
Macrolides - Erythromycin					3													0.5	64
Oxazolidines - Linezolid																		0.25	32
Streptogramins - Quinupristin/Dalfopristin		1																0.5	128

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

Test Method Used		Standard methods used for testing		
			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Streptomycin		512	
	Gentamicin		32	
Amphenicols	Chloramphenicol		32	
Penicillins	Ampicillin		4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	
Oxazolidines	Linezolid		4	

Test Method Used	Standard methods used for testing

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

Test Method Used		Standard methods used for testing		
			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Streptomycin		512	
	Gentamicin		32	
Amphenicols	Chloramphenicol		32	
Penicillins	Ampicillin		4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	
Oxazolidines	Linezolid		4	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Streptomycin		128	
	Gentamicin		32	
Amphenicols	Chloramphenicol		32	
Penicillins	Ampicillin		4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	
Oxazolidines	Linezolid		4	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Streptomycin		128	
	Gentamicin		32	
Amphenicols	Chloramphenicol		32	
Penicillins	Ampicillin		4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	
Oxazolidines	Linezolid		4	

Test Method Used	Standard methods used for testing

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4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 ENTEROBACTER SAKAZAKII

4.1.1 General evaluation of the national situation

4.1.2 Enterobacter sakazakii in foodstuffs

Table Enterobacter sakazakii in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Enterobacter sakazakii	E. sakazakii
Foodstuffs intended for special nutritional uses - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	

Footnote:

* All Official Food Institutes

4.2 HISTAMINE

4.2.1 General evaluation of the national situation

4.2.2 Histamine in foodstuffs

Table Histamine in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units in non-conformity	<= 100 mg/kg	>100 - <= 200 mg/kg	>200 - <= 400 mg/kg	> 400 mg/kg
Cheeses made from cows' milk - curd - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	2	0	2			
Cheeses made from cows' milk - hard - made from pasteurised milk - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	5g	4	2	2	1	1	
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	244	8	236	5	3	
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - imported - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	5g	21	1	20	1		
Fish - raw - at retail - Surveillance - official controls - objective sampling	*	Single	25g	7	0	7			

Table Histamine in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units in non-conformity	<= 100 mg/kg	>100 - <= 200 mg/kg	>200 - <= 400 mg/kg	> 400 mg/kg
Fish - raw - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	8	0	8			
Fish - raw - frozen - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	1	0	1			
Fishery products, unspecified - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	4	0	4			
Fishery products, unspecified - at retail - Surveillance - official controls - objective sampling	*	Single	25g	2	0	2			
Fishery products, unspecified - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	7	0	7			
Fishery products, unspecified - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	38	0	37	1		
Fishery products, unspecified - ready-to-eat - chilled - Surveillance - official controls - objective sampling (Sample weight <25g)	*	Single	10g	2	0	2			
Meat from pig - meat products - cooked, ready-to-eat - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0	1			

Footnote:

* All Official Food Institutes

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

4.3.2 Staphylococcal enterotoxins in foodstuffs

Table Staphylococcal enterotoxins in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Cereals and meals - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0
Cheeses made from cows' milk - fresh - made from raw or low heat-treated milk - at farm - Surveillance - official controls - objective sampling	*	Single	25g	1	0
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	2	1
Cheeses made from sheep's milk - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0
Cheeses, made from mixed milk from cows, sheep and/or goats - fresh - made from raw or low heat-treated milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	1

Table Staphylococcal enterotoxins in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Cheeses, made from unspecified milk or other animal milk - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0
Fishery products, unspecified - at retail - imported - Surveillance - official controls - objective sampling	*	Single	25g	1	0
Meat, mixed meat - meat preparation - intended to be eaten cooked - chilled - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - meat products - cooked, ready-to-eat - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	1	0
Other processed food products and prepared dishes - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0
Other processed food products and prepared dishes - pasta - at processing plant - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0
Other processed food products and prepared dishes - pasta - at retail - domestic production - Surveillance - official controls - objective sampling	*	Single	25g	3	0

Table Staphylococcal enterotoxins in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Other processed food products and prepared dishes - unspecified - ready-to-eat foods - chilled - at catering - Surveillance - official controls - objective sampling	*	Single	25g	1	0
Vegetables - products - cooked - chilled - at catering - Surveillance - official controls - objective sampling	*	Single	25g	2	0

Footnote:

* All Official Food Institutes

5. FOODBORNE

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

A. Foodborne outbreaks

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

Presently, every district (Austria = 98 + Vienna) is responsible for outbreak investigation. However, food borne outbreaks affecting more than one district or even more than one province (Austria = 9 provinces) are regulated by the Federal Zoonoses Act (Zoonosengesetz, BGBl. I, 128/2005 entered into force on 1. January 2006). The Federal Zoonoses Commission was founded to advise the Federal Minister to survey and combat the zoonoses in Austria. One target of the Zoonoses Act is to ensure that food-borne outbreaks receive proper epidemiological investigation. It regulates, in case of food borne outbreaks affecting more than one province that the governors of the affected provinces provide operative units to investigate possible or confirmed food borne outbreaks. Data concerning epidemiological criteria, potential implicated food items and the source of an outbreak must be collected and adequate epidemiological and microbiological examinations must be conducted. Short reports summarize each outbreak and must be communicated to the Federal Commission for Zoonoses and to AGES.

Description of the types of outbreaks covered by the reporting:

Since there has not been a coordinated approach for outbreak investigation in most provinces, the large majority (162 of 193) of food borne outbreaks are classified as household outbreaks. Coordinated investigation of outbreaks affecting more than one province - unhampered by district limits - will drastically decrease the total number of outbreaks.

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

In 2010, 193 food borne outbreaks affecting 838 persons were reported. 155 persons were hospitalized and 2 persons died. The total number of food borne outbreaks decreased by 45 % compared to 2009. The number of cases affected by an outbreak was 4.3 persons. 17 % (10% in 2009) of the reported outbreaks were acquired abroad. 43 % of all food borne outbreaks acquired in Austria were caused by *Campylobacter* spp. (n=82), 51 % by *Salmonella* spp. (n=98) and 69 % thereof by serotype Enteritidis (n=68).

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

Salmonella and *Campylobacter* pose the most important agents causing 93 % of all food borne outbreaks. The data quality does presently not allow conclusions on the relevance of different food categories.

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

The data quality does presently not allow conclusions on the relevance of different food categories.

Evaluation of the severity and clinical picture of the human cases

Hospitalized cases or cases that result in death are presently not ascertained in a valid way: Nevertheless, 19 % of patients affected by these food borne outbreaks are reported as hospitalized (17 % in 2009); there were 2 deaths (in 2009: 6 lethal case).

Control measures or other actions taken to improve the situation

Improvement due to the implementation of the Federal Zoonoses Act e.g. the chain of command in terms of investigation of food borne outbreaks affecting more than one province was implemented.

Table Foodborne Outbreaks: summarised data

	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Salmonella - S. Typhimurium	11	23	9	1	0	11
Salmonella - S. Enteritidis	61	238	53	0	7	68
Salmonella - Other serovars	18	37	9	0	1	19
Campylobacter	82	185	27	0	0	82
Listeria - Listeria monocytogenes	1	3	1	0	0	1
Listeria - Other Listeria	0	0	0	0	0	0
Yersinia	1	2	0	0	0	1
Escherichia coli, pathogenic -	3	13	3	0	0	3
Bacillus - B. cereus	0	unknown	unknown	unknown	0	0
Bacillus - Other Bacillus	0	unknown	unknown	unknown	0	0
Staphylococcal enterotoxins	0	unknown	unknown	unknown	0	0
Clostridium - Cl. botulinum	0	unknown	unknown	unknown	0	0
Clostridium - Cl. perfringens	0	unknown	unknown	unknown	0	0
Clostridium - Other Clostridia	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Brucella	0	unknown	unknown	unknown	0	0

	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Other Bacterial agents - Shigella	3	11	3	0	0	3
Other Bacterial agents - Other Bacterial	0	0	0	0	0	0
Parasites - Trichinella	1	3	2	0	0	1
Parasites - Giardia	0	0	0	0	0	0
Parasites - Cryptosporidium	0	0	0	0	0	0
Parasites - Anisakis	0	0	0	0	0	0
Parasites - Other Parasites	0	0	0	0	0	0
Viruses - Norovirus	1	4	0	0	2	3
Viruses - Hepatitis viruses	1	2	0	0	0	1
Viruses - Other Viruses	0	0	0	0	0	0
Other agents - Histamine	0	0	0	0	0	0
Other agents - Marine biotoxins	0	0	0	0	0	0
Other agents - Other Agents	0	0	0	0	0	0
Unknown agent	0	0	0	0	0	0

Table Foodborne Outbreaks: detailed data for Salmonella

Please use CTRL for multiple selection fields

S. Enteritidis - PT 8

Value

FBO Code	9
Number of outbreaks	1
Number of human cases	9
Number of hospitalisations	4
Number of deaths	0
Food vehicle	Bakery products
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Household / domestic kitchen
Place of origin of problem	Household / domestic kitchen
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis - PT 4

Value

FBO Code	4
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	5
Number of deaths	1
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence;Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	Other setting
Place of origin of problem	Farm (primary production)
Origin of food vehicle	Domestic market
Contributory factors	Unprocessed contaminated ingredient
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis - PT 4

Value

FBO Code	3
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence;Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Household / domestic kitchen
Setting	Household / domestic kitchen
Place of origin of problem	Farm (primary production)
Origin of food vehicle	Domestic market
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	MLVA 9-6-5

S. Enteritidis - PT 4

Value

FBO Code	7
Number of outbreaks	1
Number of human cases	13
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Bakery products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Unknown
Place of origin of problem	Farm (primary production)
Origin of food vehicle	Intra EU trade
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	MLVA 8-6-5; foreign eggs were bought in one supermarket chain; no findings of Salmonella Enteritidis PT4 MLVA 8-6-5 in Austrian laying hen flocks

S. Mbandaka

Value

FBO Code	10
Number of outbreaks	1
Number of human cases	159
Number of hospitalisations	31
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence;Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans;Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	General
Setting	Household / domestic kitchen
Place of origin of problem	Farm (primary production)
Origin of food vehicle	Domestic market
Contributory factors	Other contributory factor
Mixed Outbreaks (Other Agent)	
Additional information	contaminated feedingstuff

S. Enteritidis - PT 4

Value

FBO Code	5
Number of outbreaks	1
Number of human cases	33
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Other
Origin of food vehicle	Domestic market
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis - PT 4

Value

FBO Code	8
Number of outbreaks	1
Number of human cases	14
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Mixed or buffet meals
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Household / domestic kitchen
Place of origin of problem	Farm (primary production)
Origin of food vehicle	Intra EU trade
Contributory factors	Cross-contamination
Mixed Outbreaks (Other Agent)	
Additional information	MLVA 8-6-5; foreign eggs were bought in one supermarket chain; no findings of Salmonella Enteritidis PT4 MLVA 8-6-5 in Austrian laying hen flocks

S. Enteritidis - PT 4

Value

FBO Code	6
Number of outbreaks	1
Number of human cases	7
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Unknown
Place of origin of problem	Farm (primary production)
Origin of food vehicle	Intra EU trade
Contributory factors	Storage time/temperature abuse
Mixed Outbreaks (Other Agent)	
Additional information	MLVA 8-6-5; foreign eggs were bought in one supermarket chain; no findings of Salmonella Enteritidis PT4 MLVA 8-6-5 in Austrian laying hen flocks

Table Foodborne Outbreaks: detailed data for Viruses

Please use CTRL for multiple selection fields

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	1
Number of outbreaks	1
Number of human cases	69
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Mixed or buffet meals
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Restaurant/Café/Pub/Bar/Hotel/Catering service
Origin of food vehicle	Unknown
Contributory factors	Infected food handler
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

Value

FBO Code	2
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Mixed or buffet meals
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Other setting
Place of origin of problem	Transport of food
Origin of food vehicle	Domestic market
Contributory factors	Infected food handler
Mixed Outbreaks (Other Agent)	
Additional information	