



SLOVENIA

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

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

including information on foodborne outbreaks and
antimicrobial resistance in zoonotic agents

IN 2005

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: **Slovenia**

Reporting Year: **2005**

Institutions and laboratories involved in reporting and monitoring:

Laboratory name	Description	Contribution
Institute of Public Health of the Republic of Slovenia IPHRS	Researches Laboratory	Monitoring program-preparing Collect data in humans Scientific advice and support Analysis and testing
Health Inspectorate of the Republic of Slovenia HIRS	Competent authority	Monitoring program-preparing Collect data in food Epidemiological investigation
National Veterinary Institute NVI	Researches Laboratory	Scientific advice and support Analysis and testing
Regional Institute of of Public Health of Maribor	Epidemiology Laboratory	Monitoring program-to take part in preparing Epidemiological investigation Analysis and testing
Veterinary Administration of the Republic of Slovenia VARs	Competent authority	Monitoring program -preparing Collect data in animals, food, feed Epidemiological investigation National report-preparing Contact point for contacts with EC

PREFACE

This report is submitted to the European Commission in accordance with Article 9 of Council Directive 2003/99/EC¹. 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 Slovenia during the year 2005. 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.

¹ 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:

Source:

Livestock numbers and number of holdings: Statistical office of the Republic of Slovenia

Number of slaughtered animals: Veterinary Administration of the Republic of Slovenia

Dates the figures relate to and the content of the figures:

Reference date

Livestock numbers and number of holdings: Reference date is the date the obtained data refer to.

The reference date of this survey was 1 June 2003.

Number of slaughtered animals: The number of slaughtered animals in 2004

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

Definitions and other explanations

Agricultural holding is a single unit, both organisational and operating, of agricultural area utilised, forests, buildings, equipment and labour force, which has a single management and which is engaged in agricultural production.

Additional information

METHODOLOGICAL EXPLANATIONS

The purpose of the survey

The Farm Structure Survey (FSS) is one of the basic statistical surveys in the field of agriculture. In accordance with EU regulation it is conducted as a census every 10 years. Between censuses it can be conducted as a sample survey.

Within the framework of FSS 2003 regular annual survey on Areas Sown and Number of Livestock was carried out.

Observation units

Observation units are agricultural holdings satisfying the criteria of EU comparable threshold and all agricultural enterprises and co-operatives.

Data on agricultural enterprises and co-operatives were collected by questionnaire by post.

Table Susceptible animal populations

* Only if different than current reporting year

Animal species	Category of animals	Number of herds or flocks		Number of holdings		Livestock numbers (live animals)		Number of slaughtered animals	
			Year*		Year*		Year*		Year*
Cattle (bovine animals)	calves (under 1 year)			34699	2003	139962	2003		
	young cattle (1-2 years)			31635	2003	116691	2003		
	adult cattle over 2 years			41038	2003	221677	2003		
	in total			46736	2003	478331	2003	154767	
Ducks	in total			2373	2003	20304	2003		
Gallus gallus (fowl)	laying hens			47888	2003	1387408	2003		
	broilers			4894	2003	2604304	2003	26753634	
Geese	in total			713	2003	3862	2003		
Goats	in total			3974	2003	28690	2003	251	
Pigs	breeding animals			8477	2003	68566	2003		
	fattening pigs			33008	2003	228456	2003		
	in total			39484	2003	607881	2003	430632	
Sheep	in total			5281	2003	119631	2003	11221	
Solipeds, domestic	horses - in total			4728	2003	16879	2003	1728	
Turkeys	in total			1365	2003	310285	2003	648813	

Footnote

Source:

Number of holdings, Livestock numbers: Statistical office of the Republic of Slovenia

Number of slaughtered animals: Veterinary Administration of the Republic of Slovenia

2. INFORMATION ON SPECIFIC ZOOSES 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

After the second World War only Salmonella Typhi and Paratyphi were notified. In 1950-s Salmonella Typhi and Paratyphi infections were more and more rare, other Salmonella serotypes were more and more frequent.

From 1946 to 1953 3414 cases of Salmonella Typhi and 3415 cases of Salmonella Paratyphi were notified. Among them 180 patients with Salmonella Typhi and 41 patients with Salmonella Paratyphi died.

After year 1953 epidemiological situation changed. More other Salmonella serotypes (Salmonella Typhimurium, Choleraesuis, Enteritidis etc.) were identified and less Salmonella Typhi and Paratyphi.

From the year 1954 to 2000 188 serotypes of Salmonella were identified and 82742 notifications of Salmonella gastroenteritis in Slovenia.

In last years Salmonella Enteritidis encounters more than 90% of Salmonella isolates in Slovenia.

Salmonella Typhi, S.Paratyphi are notified only as imported infections.

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

The number of notified human Salmonella cases declined from 3307 notifications in 2004 to 1519 in 2005. The incidence of notified Salmonella cases dropped to 76 per 100 000 inhabitants.

The average number of notified Salmonella cases in last 5 years in Slovenia was 2655 cases, the highest number was in year 2003 - 4005 cases.

Most frequent serotypes are: Salmonella Enteritidis, Salmonella Typhimurium, Salmonella Infantis, Salmonella Coeln.

The real burden of Salmonella human infections is unknown, because we collate data on notificated cases.

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

The incidence of human Salmonella infections has recently decreased according to notificated number of Salmonella human cases.

Source of infection are probably still poultry and eggs, but also bad hygiene and lack of knowledge of mode of transmission or prevention of infection.

Additional information

Antimicrobial susceptibility testing

Antimicrobial susceptibility of veterinary isolates was tested by NRL-Salmonella. Of the 18 or 19 antimicrobials tested no resistance was detected only to cephalexin and ciprofloxacin. Of the 14 strains from feedingstuffs only 2 strains were resistant, each to one antimicrobial (nalidixic

acid and streptomycin). Of the 58 strains isolated from animals, 41 were isolated from food producing animals and 17 from others. In food producing animals 9 strains (22%) were resistant (from 1 to 9 of the 18 antimicrobials tested). Of the 61 strains, isolated from foodstuffs, 34 strains (56%) were resistant (from 1 to 15 of the 18 or 19 antimicrobials tested). Interestingly a multiresistant strain (to 9 of the 18 antimicrobials tested) of *S. Typhimurium* was isolated also from rabbit meat. Of the 39 strains, isolated from the environment (not presented in the report), 7 strains (18%) were resistant (from 1 to 14 of the 18 antimicrobials tested).

2.1.2. Salmonella in foodstuffs

A. Salmonella spp. in eggs and egg products

Monitoring system

Sampling strategy

Monitoring at retail

Annual monitoring programme was prepared with respect to the results of programme/controls carried out in the previous year, epidemiological situation, Commission Recommendation concerning a coordinated programme for the official control of foodstuffs.

The majority of samples were taken in cities with 10000 inhabitants or more and number of samples taken was proportional with the population in the region.

There were taken at the retail level where sampling could give an overview over the situation.

Sampling carried out by health inspectors.

Programme: 100 samples of table eggs.

Frequency of the sampling

Eggs at retail

Sampling takes place during the months February - August

Egg products (at production plant and at retail)

Other: none

Type of specimen taken

Eggs at egg packing centres (foodstuff based approach)

Other: /

Eggs at retail

Surface of egg shell

Egg products (at production plant and at retail)

Other: /

Methods of sampling (description of sampling techniques)

Eggs at retail

A sample weighing approximately 300 g or 10 eggs is/are stored in a sterile bag or other sterile container. Samples must be delivered to the laboratory in the shortest time possible, and normally, immediately upon sampling. The period of time elapsing from sampling to analysis shall by no means exceed 24 hours. The

transportation must be done not over +4 °C.

102 samples were taken in Year 2005. One was positive on presence of *Salmonella enteritidis* and one was detected only as *Salmonella* spp.

Definition of positive finding

Eggs at retail

A sample from which *Salmonella* has been isolated.

Egg products (at production plant and at retail)

/

Diagnostic/analytical methods used

Eggs at retail

Bacteriological method: NMKL No 71:1999

Egg products (at production plant and at retail)

Other: /

Preventive measures in place

GMP, GHP, HACCP

Measures in case of the positive findings

Additional sampling was carried out and other necessary enforcement actions.

Notification system in place

Whenever zoonotic agent-*Salmonella* is detected in samples taken, relevant authorities must be informed.

Results of the investigation

Within the monitoring programme 100 samples and 2 additional samples were taken.

B. *Salmonella* spp. in broiler meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

Poultry meat sampling is carried out in all the registered cutting plants. Sampling is carried out by the official veterinarians.

At retail

HIRS

Annual monitoring programme was prepared with respect to the results of programme/controls carried out in the previous year, epidemiological situation, Commission Recommendation concerning a coordinated programme for the official control of foodstuffs.

The majority of samples were taken in cities with 10000 inhabitants or more and number of samples taken was proportional with the population in the region.

There were taken at the retail level where sampling could give an overview over the situation.

Sampling carried out by health inspectors.

Programme: 100 samples of fresh meat per annum.

Frequency of the sampling

At slaughterhouse and cutting plant

Other: In poultry meat cutting plants, 1 poultry meat sample is taken every month

At retail

Sampling takes place during the months February - August

Type of specimen taken

At slaughterhouse and cutting plant

Fresh meat

At retail

Fresh meat

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

A meat sample weighing approximately 300g is removed by a sterile instrument, and in poultry, the thoracic section is removed and stored in a sterile bag.

Samples must be delivered to the laboratory in the shortest possible time, and normally, immediately upon sampling, i.e. within the same day. During transport, samples must be chilled to +4 oC. Analyses should commence in the shortest possible time after sampling.

At retail

A sample weighing approximately 300 g is stored in a sterile bag or other sterile container. Samples must be delivered to the laboratory in the shortest time possible, and normally, immediately upon sampling. The period of time elapsing from sampling to analysis shall by no means exceed 24 hours. The transportation must be done not over +4 oC.

Definition of positive finding

At retail

HIRS

A sample from which Salmonella has been isolated.

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

At retail

Bacteriological method: ISO 6579:2002

Preventive measures in place

GMP, GHP, HACCP

HIRS

At the moment food business operators introduce the system of additional labelling of poultry meat which includes special warning to the customers to treat poultry meat at requested temperature before any use.

Measures in case of the positive findings or single cases

HIRS

Monitoring at retail:

Additional sampling was carried out and other necessary enforcement actions. Since product was no longer on the market at the time of receiving analytical results of samples taken at the retail level in all cases in house control was required.

Notification system in place

VARS Regional Offices must report to VARS Main Office on a monthly basis regarding the monitoring programme implementation and control results.

HIRS

Whenever zoonotic agent-Salmonella is detected in samples taken, relevant authorities must be informed.

Results of the investigation

Sampling in cutting plants.

In 2005, 70 broiler meat samples were taken. Salmonella was not detected in the meat.

HIRS

Monitoring in retail:

Out of 106 samples of meat taken, 7.5% were positive on presence of Salmonella spp. Detailed evaluation of data shows that 2.8% of fowl/chicken were positive on presence of Salmonella enteritidis, 2.8% were positive on presence of Salmonella infantis, 0.9% were positive on presence of Salmonella blagdan and 0.9% were positive on presence of Salmonella carno.

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

Situation concerning Salmonella spp. in the fresh meat in production remains favourable also in 2005.

C. Salmonella spp. in turkey meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

Poultry meat sampling is carried out in all the registered cutting plants. Sampling is carried out by the official veterinarians.

At retail

/

Frequency of the sampling

At slaughterhouse and cutting plant

Other: In poultry meat cutting plants, 1 poultry meat sample is taken every month

At retail

Other: /

Type of specimen taken

At slaughterhouse and cutting plant

Fresh meat

At retail

Other: /

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

A meat sample weighing approximately 300g is removed by a sterile instrument, and in poultry, the thoracic section is removed and stored in a sterile bag. Samples must be delivered to the laboratory in the shortest possible time, and normally, immediately upon sampling, i.e. within the same day. During transport, samples must be chilled to +4 °C. Analyses should commence in the shortest possible time after sampling.

At retail

/

Definition of positive finding

At slaughterhouse and cutting plant

Positive sample is a sample, where the zoonotic agent has been isolated from.
Isolation of agent in 25g.

At retail

/

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

At retail

Other: /

Preventive measures in place

GMP, GHP, HACCP

Measures in case of the positive findings or single cases

/

Notification system in place

VARs Regional Offices must report to VARs Main Office on a monthly basis regarding the monitoring programme implementation and control results.

Results of the investigation

In 2005, 25 turkey meat samples were taken. Salmonella was not detected in the meat.

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

Situation concerning Salmonella spp. in the fresh meat in production remains favourable also in 2005.

On the basis of results obtained in production, the meat of domestic animals does not pose a threat to public health.

D. Salmonella spp. in pig meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

Bovine and porcine meat sampling is carried out in all the registered cutting plants of industrial type (EU-approved).

At retail

/

Frequency of the sampling

At slaughterhouse and cutting plant

Other: In the bovine and porcine meat cutting plants, 1 meat sample is taken every 2 months.

At retail

Other: /

Type of specimen taken

At slaughterhouse and cutting plant

Fresh meat

At retail

Other: /

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

A meat sample weighing approximately 300g is removed by a sterile instrument, and in poultry, the thoracic section is removed and stored in a sterile bag. Samples must be delivered to the laboratory in the shortest possible time, and normally, immediately upon sampling, i.e. within the same day. During transport, samples must be chilled to +4 °C. Analyses should commence in the shortest possible time after sampling.

At retail

/

Definition of positive finding

At slaughterhouse and cutting plant

Positive sample is a sample, where the zoonotic agent has been isolated from. Isolation of agent in 25g.

At retail

/

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

At retail

Other: /

Preventive measures in place

GMP, GHP, HACCP

Measures in case of the positive findings or single cases

/

Notification system in place

VARS Regional Offices must report to VARS Main Office on a monthly basis regarding the monitoring programme implementation and control results.

Results of the investigation

Sampling in cutting plants.

In 2005, 113 porcine meat samples were taken. Salmonella was not detected in the meat.

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

Situation concerning Salmonella spp. in the fresh meat in production remains favourable also in 2005.

On the basis of results obtained in production, the meat of domestic animals does not pose a threat to public health.

E. Salmonella spp. in bovine meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

Bovine and porcine meat sampling is carried out in all the registered cutting plants of industrial type (EU-approved).

Frequency of the sampling

At slaughterhouse and cutting plant

Other: In the bovine and porcine meat cutting plants, 1 meat sample is taken every 2 months.

Type of specimen taken

At slaughterhouse and cutting plant

Fresh meat

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

A meat sample weighing approximately 300g is removed by a sterile instrument, and in poultry, the thoracic section is removed and stored in a sterile bag.

Samples must be delivered to the laboratory in the shortest possible time, and normally, immediately upon sampling, i.e. within the same day. During transport, samples must be chilled to +4 °C. Analyses should commence in the shortest possible time after sampling.

Definition of positive finding

At slaughterhouse and cutting plant

Positive sample is a sample, where the zoonotic agent has been isolated from. Isolation of agent in 25g.

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

Preventive measures in place

GMP, GHP, HACCP

Notification system in place

VARs Regional Offices must report to VARs Main Office on a monthly basis regarding the monitoring programme implementation and control results.

Results of the investigation

Sampling in cutting plants.

In 2005, 107 bovine meat samples were taken. Salmonella was not detected in the meat.

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

Situation concerning Salmonella spp. in the fresh meat in production remains favourable also in 2005.

On the basis of results obtained in production, the meat of domestic animals does not pose a threat to public health.

F. Salmonella spp. in food

Monitoring system

Sampling strategy

HIRS

Monitoring at retail

Annual monitoring programme was prepared with respect to the results of programme/controls carried out in the previous year, epidemiological situation, Commission Recommendation concerning a coordinated programme for the official control of foodstuffs.

The majority of samples were taken in cities with 10000 inhabitants or more and number of samples taken was proportional with the population in the region.

There were taken at the retail level where sampling could give an overview over the situation.

Sampling carried out by health inspectors.

Programme: prepared dishes, cheeses, vegetables and fruits, fishery products, juice, spices and herbs, sprouted seeds, dehydrated soups, ice-cream, sandwiches… .

Frequency of the sampling

Sampling takes place during the months February - September.

Methods of sampling (description of sampling techniques)

A sample weighing approximately 300 g is stored in a sterile bag or other sterile container. Samples must be delivered to the laboratory in the shortest time possible, and normally, immediately upon sampling. The period of time elapsing from sampling to analysis shall by no means exceed 24 hours. The transportation must be done not over +4 oC.

Definition of positive finding

A sample from which Salmonella has been isolated.

Diagnostic/analytical methods used

Bacteriological method: ISO 6579:2002;Cor.2004

Preventive measures in place

GMP, GHP, HACCP

Measures in case of the positive findings or single cases

Monitoring at retail

Additional sampling was carried out and other necessary enforcement actions.

Notification system in place

Whenever zoonotic agent-Salmonella monocytogenes is detected in samples taken, relevant authorities must be informed.

Results of the investigation

A total of 1425 samples were taken at restaurants, retail and catering. Salmonella was not detected in any sample.

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

Situation concerning Salmonella spp. in food in retail is favourable.

G. Salmonella spp. in food - Meat from bovine animals and pig

Monitoring system

Sampling strategy

HIRS

Annual monitoring programme was prepared with respect to the results of programme/controls carried out in the previous year, epidemiological situation, Commission Recommendation concerning a coordinated programme for the official control of foodstuffs.

The majority of samples were taken in cities with 10000 inhabitants or more and number of samples taken was proportional with the population in the region.

There were taken at the retail level where sampling could give an overview over the situation.

Sampling carried out by health inspectors.

Programme: 100 samples of minced meat(pig and/or bovine) meat per annum. It was taken one more sample (101).

Frequency of the sampling

Sampling takes place during the months from May to August.

Methods of sampling (description of sampling techniques)

A sample weighing approximately 300 g is stored in a sterile bag or other sterile container. Samples must be delivered to the laboratory in the shortest time possible, and normally, immediately upon sampling. The period of time elapsing from sampling to analysis shall by no means exceed 24 hours. The transportation must be done not over +4 °C.

Definition of positive finding

A sample from which Salmonella has been isolated.

Diagnostic/analytical methods used

Bacteriological method: ISO 6579:2002

Preventive measures in place

GMP, GHM, HACCP

Measures in case of the positive findings or single cases

Monitoring at retail

Additional sampling was carried out and other necessary enforcement actions.

Notification system in place

Whenever zoonotic agent-Salmonella is detected in samples taken, relevant authorities must be informed.

Results of the investigation

Monitoring at retail

Results show that only one sample was positive on presence of Salmonella.

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. Infantis	S. Blegdam	S. Carno
Meat from broilers (Gallus gallus)											
fresh											
- at cutting plant - Monitoring - official sampling - objective sampling	VARs	single	25g	70	0						
meat preparation											
intended to be eaten cooked (1)	HIRS	single	25g	106	8	3	0		3	1	1
Meat from turkey											
fresh											
- at cutting plant - Monitoring - official sampling - objective sampling	VARs	single	25g	25	0						

(1) : prepacked

Table Salmonella spp. 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 (1)	HIRS	single	25g	40	0			
Dairy products (excluding cheeses)								
ice-cream	HIRS	single	25g	237	0			

(1) : Including hard cheeses

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. Blockley
Meat from pig									
fresh									
- at cutting plant - Monitoring - official sampling - objective sampling	VARs	single	25g	113	0				
Meat from bovine animals									
fresh									
- at cutting plant - Monitoring - official sampling - objective sampling	VARs	single	25g	107	0				
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos)									
meat products									
fermented sausages	HIRS	single	25g	20	0				
minced meat									
- at retail - Monitoring	HIRS	single	25	101	1				1

Table Salmonella spp. in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Eggs								
table eggs								
- at retail	HIRS	single	25g	102	2	1		1
Molluscan shellfish								
raw (1)	HIRS	single	25g	20	0			
Sprouted seeds	HIRS	single	25g	45	0			
Fruits and vegetables								
precut	HIRS	single	25g	67	0			
ready-to-eat (2)	HIRS	single	25g	40	0			
Infant formula	HIRS	single	25g	59	0			
Spices and herbs								
dried	HIRS	single	25g	40	0			
Sweets	HIRS	single	25g	265	0			
Other processed food products and prepared dishes								
unspecified	HIRS	single	25g	648	0			
sandwiches	HIRS	single	25g	40	0			
Fruits								
products (3)	HIRS	single	25g	21	0			
Other food	HIRS	single	25	78	0			

(1) : prepacked

(2) : prepacked vegetables only

(3) : prepacked frozen

2.1.3. Salmonella in animals

A. Salmonella spp. in Gallus gallus - breeding flocks for egg production and flocks of laying hens

Monitoring system

Sampling strategy

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

Sampling shall be carried out in all breeding flocks including at least 250 birds. Animal owner or holder of activity of the hatchery shall at his own expense take samples for analysis in order to detect the presence of Salmonella. Sampling shall be carried out at poultry breeding holdings or in hatcheries. Every eight weeks the sampling carried out by the holder of activity in the adult breeding flocks shall be substituted by the official sampling, carried out by the official veterinarians.

Laying hens flocks

Sampling shall be carried out in all the flocks at holdings keeping laying hens, which include more than 200 birds. Sampling shall be carried out by the authorised veterinary organisations within the scope of the prescribed regular monitoring.

Frequency of the sampling

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

Every flock is sampled

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

Other: At four weeks of age and two weeks prior to entering the laying phase.

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

Every two weeks

Laying hens: Day-old chicks

Other: Sample of chicks found dead in a single day or of the bedding or faeces in case of the increased mortality (more than 0,5 % per day) upon arrival (on the introduction of birds into the accommodation facilities).

Laying hens: Rearing period

Other: Sample of chicks found dead in a single day or of the bedding or faeces in case of the increased mortality (more than 0,5 % per day) during the breeding period. Sample of chicks found dead in a single day or of the bedding or faeces in week 8 and 16 of age of the birds.

Laying hens: Production period

Other: Sample of chicks found dead in a single day or of the bedding or faeces in case of the increased mortality (more than 0,5 % per day) during the laying period; sample of the bedding or faeces and a sample of table eggs (5 % or up to a maximum of 60 eggs) every 3 months in the laying phase.

Type of specimen taken

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

Other: Sampling of the internal linings of the boxes in which the chicks have been delivered to the holding, and of the carcasses of chicks found dead on arrival.

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

Other: Pooled faeces samples made up of separate samples of fresh faeces each weighing not less than 1 g taken at random from a number of sites in the building in which the birds are kept, or, where the birds have free access to more than one building on a particular holding, from each group of buildings on the holding in which the birds are kept.

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

Other: In accordance with Annex III of Council Directive 92/117/EEC

Laying hens: Day-old chicks

Other: Chicks found dead in a single day or of the bedding or faeces

Laying hens: Rearing period

Other: Chicks found dead in a single day or of the bedding or faeces

Laying hens: Production period

Other: Sample of chicks found dead in a single day or of the bedding or faeces and a sample of table eggs

Methods of sampling (description of sampling techniques)

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

In accordance with Annex III of Council Directive 92/117/EEC.

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

In accordance with Annex III of Council Directive 92/117/EEC.

Breeding flocks: Production period

In accordance with Annex III of Council Directive 92/117/EEC.

Laying hens: Day-old chicks

See frequency of the sampling

Laying hens: Rearing period

See frequency of the sampling

Laying hens: Production period

See frequency of the sampling

Case definition

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

Flock shall be considered positive where the causative agent has been identified in the confirmatory sample of the official sampling.

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

Flock shall be considered positive where the causative agent has been identified in the confirmatory sample of the official sampling.

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

Flock shall be considered positive where the causative agent has been identified in the confirmatory sample of the official sampling.

Laying hens: Day-old chicks

The disease shall be considered officially confirmed where the bacteriological investigation results, upon the examination of the dead bird carcasses and/or bedding and feed after the reported suspicion of disease on the basis of clinical signs, or the bacteriological investigation results of the monitoring for the salmonellosis in poultry have been positive; in the opposite case it shall be considered that the disease has officially been ruled out.

Laying hens: Rearing period

The disease shall be considered officially confirmed where the bacteriological investigation results, upon the examination of the dead bird carcasses and/or bedding and feed after the reported suspicion of disease on the basis of clinical signs, or the bacteriological investigation results of the monitoring for the salmonellosis in poultry have been positive; in the opposite case it shall be considered that the disease has officially been ruled out.

Laying hens: Production period

The disease shall be considered officially confirmed where the bacteriological investigation results, upon the examination of the dead bird carcasses and/or bedding and feed after the reported suspicion of disease on the basis of clinical signs, or the bacteriological investigation results of the monitoring for the salmonellosis in poultry have been positive; in the opposite case it shall be considered that the disease has officially been ruled out.

Diagnostic/analytical methods used

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

Other: Bacteriological method: Method in accordance with the OIE Manual, 5th ed., 2004; Modified ISO 6579: 2002 (Recommendation by the CRL)

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

Other: Bacteriological method: Method in accordance with the OIE Manual, 5th ed., 2004 ; Modified ISO 6579: 2002 (Recommendation by the CRL)

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

Other: Bacteriological method: Method in accordance with the OIE Manual, 5th ed., 2004; Modified ISO 6579: 2002 (Recommendation by the CRL)

Laying hens: Day-old chicks

Other: Bacteriological method: Method in accordance with the OIE Manual, 5th ed., 2004; Modified ISO 6579: 2002 (Recommendation by the CRL)

Laying hens: Rearing period

Other: Bacteriological method: Method in accordance with the OIE Manual, 5th ed., 2004; Modified ISO 6579: 2002 (Recommendation by the CRL)

Laying hens: Production period

Other: Bacteriological method: Method in accordance with the OIE Manual, 5th ed., 2004; Modified ISO 6579: 2002 (Recommendation by the CRL)

Vaccination policy

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

Vaccination of breeding flocks is voluntary.

Other preventive measures than vaccination in place

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

Persons, who in carrying out a registered activity of breeding or production come into direct contact with animals, foodstuffs, raw materials, products or waste, must have thorough knowledge in contagious animal diseases, the prevention thereof and transmissibility to man, and in the regulations governing the protection against contagious diseases. Animal holders must carry out preventive measures as for instance: providing potable water and feed that are fit for consumption; providing and maintaining the required conditions of hygiene in the animal breeding and auxiliary facilities; preventing the introduction into the breeding facilities of disease agents; implementing veterinary measures in the intensive animal rearing technology; handling as prescribed the animal carcasses and other waste, waste waters, faeces and urine; providing for the preventive disinfection, disinsectisation and deratisation (DDD) in the facilities, on public surfaces and in the means of transport.

Laying hens flocks

Persons, who in carrying out a registered activity of breeding or production come into direct contact with animals, foodstuffs, raw materials, products or waste, must have thorough knowledge in contagious animal diseases, the prevention thereof and transmissibility to man, and in the regulations governing the protection against contagious diseases. Animal holders must carry out preventive measures as for instance: providing potable water and feed that are fit for consumption; providing and maintaining the required conditions of hygiene in the animal breeding and auxiliary facilities; preventing the introduction into the breeding facilities of disease agents; implementing veterinary measures in the intensive animal rearing technology; handling as prescribed the animal carcasses and other waste, waste waters, faeces and urine; providing for the preventive disinfection, disinsectisation and deratisation (DDD) in the facilities, on public surfaces and in the means of transport.

Control program/mechanisms

The control program/strategies in place

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

National control programme is carried out in accordance with the national legislation, on the basis of the Rules on the monitoring of zoonoses and zoonotic agents in poultry breeding flocks (transposing Council Directive 92/117/EEC),

and the Instructions on measures for the detection, prevention and suppression of salmonellosis. The control programme envisages inter alia as follows:

Immediately upon the reported suspicion of disease at the suspect holding, the following shall be instituted on the basis of an expert instruction: banning the movements and alienation of animals susceptible to the disease; banning the issuing of health certificates for animals susceptible to the disease; banning the trade in eggs for consumption;

banning the slaughter of animals susceptible to the disease; restricting the movements of persons coming into contact with the infected animal or animal suspected of being infected, and providing for and maintaining the appropriate conditions of hygiene in the facilities.

Measures shall be instituted as long as the suspicion of disease has not officially been ruled out.

Laying hens flocks

National control programme is carried out in accordance with the national legislation, on the basis of the Instructions on measures for the detection, prevention and suppression of salmonellosis. The control programme envisages inter alia as follows:

Implementation of monitoring and immediate confirmation of the disease in case of the suspected presence on the basis of clinical signs or detection of the disease in other animals at the same holding, by taking samples for the diagnostic purposes, epizootiological investigation, and instituting appropriate measures immediately upon suspecting the presence of disease at the suspect holding. Measures shall be instituted as long as the suspicion of disease has not officially been ruled out.

Instituting of supplementary measures in the infected holding.

Measures in case of the positive findings or single cases

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

On the official confirmation of disease, the following measures shall be instituted at the holding in addition to those instituted at the suspected presence of disease:

- incoming raw materials to constitute poultry feed shall be decontaminated by the appropriate procedure;
- premises, instruments and tools in the places of poultry feed production and storage shall be disinfected by the appropriate disinfectant;
- premises, installations, packaging and equipment in hatcheries and vehicles intended for the transport of poultry and eggs shall be disinfected by the appropriate procedure and disinfectant;
- hatching eggs shall be disinfected by the bactericidal gas immediately upon collection, as well as the hatchers;
- eggs placed in the hatcher on the same day shall be disinfected by the bactericidal gas on day 18 or 19;
- hatched poultry shall be disinfected by the bactericidal gas as long as it is still moist and in the hatcher;

- unhatched eggs, deformed hatchlings and other hatching waste shall be harmlessly disposed of;
- DDD measures shall be carried out in the infected poultry breeding facilities and in the facilities for the production of eggs and poultrymeat, and no later than the second day after disinfection, the bacteriological control of its efficiency shall be carried out;
- manure shall be removed from the perimeter of the holding, packed and not used for three months upon packing;
- poultry shall be treated by an appropriate antibiotic or chemotherapeutic agent on the basis of antibiogram, and
- other measures for sanitising the infected holding shall be implemented.

Measures instituted at the infected holding shall be lifted:

where the results of bacteriological investigations, carried out on days 5 and 10 after implementation of measures and completion of treatment, are negative.

Laying hens flocks

On the official confirmation of disease, the following measures shall be instituted at the holding in addition to those instituted at the suspected presence of disease:

- incoming raw materials to constitute poultry feed shall be decontaminated by the appropriate procedure;
- premises, instruments and tools in the places of poultry feed production and storage shall be disinfected by the appropriate disinfectant;
- vehicles intended for the transport of poultry and eggs shall be disinfected by the appropriate procedure and disinfectant;
- DDD measures shall be carried out in the infected poultry breeding facilities and in the facilities for the production of eggs and poultrymeat, and no later than the second day after disinfection, the bacteriological control of its efficiency shall be carried out;
- manure shall be removed from the perimeter of the holding, packed and not used for three months upon packing;
- poultry shall be treated by an appropriate antibiotic or chemotherapeutic agent on the basis of antibiogram, and
- other measures for sanitising the infected holding shall be implemented.

Measures instituted at the infected holding shall be lifted:

where the results of bacteriological investigations, carried out on days 7 and 14 after implementation of measures and completion of treatment, are negative.

Notification system in place

Breeding flock: In case that by monitoring the presence of Salmonella in a breeding flock is detected, the holder of the flock must officially notify VARS of the results. The laboratory must submit the diagnostic test results to the Main Office of VARS. This method of reporting must be carried out in accordance with the provisions of the Rules on the monitoring of zoonoses and zoonotic agents in poultry breeding flocks (transposing Council Directive 92/117/EEC) since 2004, and prior to that date, the method of reporting diseases was used as prescribed in the Rules on contagious animal diseases.

Laying hens: In case of disease, the veterinary organisation must notify the relevant Regional Office of VARS, where the disease has been confirmed by the diagnostic test result. The report on the occurrence of disease is to be submitted on a monthly basis by the tenth day in a month

for the previous month.

The authorised laboratory submits the diagnostic test results to the relevant Regional Office of VARS, and to the consigner of samples.

Once a month and no later than the 20th day in the month, the authorised laboratories and Regional Offices of VARS must report on the diagnostic test results to the Office for Contagious Animal Diseases within VARS.

This method of reporting is carried out in accordance with the provisions of the Rules on contagious animal diseases (applicable since 2002), and the reporting as such has been compulsory since 1996.

Results of the investigation

BREEDING FLOCKS - animals intended for the production of hatching eggs

In 2005, 15 laying hen parent flocks were tested - on the hatching egg line, and thereof, 5 grand-parent flocks and 11 parent flocks. Salmonella was not detected in the grand-parent flocks, whilst the prevalence in the parent flocks amounted to 18 %. In the two positive flocks, Salmonella enteritidis was identified at production stage.

LAYING HEN FLOCKS - animals intended for the production of table eggs

In 2005, 130 flocks were tested, and thereof, 23 flocks during rearing period and 107 adult flocks at production stage. Salmonella was identified in 1 flock during rearing period and in 7 flocks at production stage, which amounts to 6.2 % of all flocks tested. Salmonella enteritidis was confirmed in 6 flocks (75 %), and S. Menden was identified in 1 flock.

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

BREEDING FLOCKS - animals intended for the production of hatching eggs

As compared to the preceding year, the presence of Salmonella on the hatching egg line was noted.

There is no change as regards the total number of positive parent flocks (egg and meat production line). Similarly as in 2004, Salmonella was identified in 3 parent flocks, amounting to 3.4 %.

LAYING HEN FLOCKS - animals intended for the production of table eggs

In 2005, an increase in Salmonella prevalence in laying hen flocks was noted, from 3.1 % to 6.2 %.

B. Salmonella spp. in Gallus gallus - breeding flocks for meat production and broiler flocks

Monitoring system

Sampling strategy

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

Sampling shall be carried out in all breeding flocks including at least 250 birds. Animal owner or holder of activity of the hatchery shall at his own expense take samples for analysis in order to detect the presence of Salmonella. Sampling shall be carried out at poultry breeding holdings or in hatcheries. Every eight

weeks the sampling carried out by the holder of activity in the adult breeding flocks shall be substituted by the official sampling, carried out by the official veterinarians.

Broiler flocks

Twice a year, sampling shall be carried out in all the holdings rearing poultry for production - broilers. Sampling shall be carried out by the authorised veterinary organisations within the prescribed regular monitoring.

Frequency of the sampling

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

Every flock is sampled

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

Other: At four weeks of age and two weeks prior to entering the laying phase.

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

Every two weeks

Broiler flocks: Before slaughter at farm

Other: Twice a year, sampling shall be carried out in all the holdings rearing poultry for production - broilers.

Type of specimen taken

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

Other: Sampling of the internal linings of the boxes in which the chicks have been delivered to the holding, and of the carcasses of chicks found dead on arrival.

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

Other: Pooled faeces samples made up of separate samples of fresh faeces each weighing not less than 1 g taken at random from a number of sites in the building in which the birds are kept, or, where the birds have free access to more than one building on a particular holding, from each group of buildings on the holding in which the birds are kept.

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

Other: In accordance with Annex III of Council Directive 92/117/EEC.

Broiler flocks: Before slaughter at farm

Other: Sample of bedding of the flocks.

Methods of sampling (description of sampling techniques)

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

In accordance with Annex III of Council Directive 92/117/EEC.

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

In accordance with Annex III of Council Directive 92/117/EEC.

Breeding flocks: Production period

In accordance with Annex III of Council Directive 92/117/EEC.

Broiler flocks: Before slaughter at farm

See frequency of the sampling.

Case definition

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

Flock shall be considered positive where the causative agent has been identified in the confirmatory sample of the official sampling.

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

Flock shall be considered positive where the causative agent has been identified in the confirmatory sample of the official sampling.

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

Flock shall be considered positive where the causative agent has been identified in the confirmatory sample of the official sampling.

Broiler flocks: Day-old chicks

The disease shall be considered officially confirmed where the bacteriological investigation results, upon the examination of the dead bird carcasses and/or bedding and feed after the reported suspicion of disease on the basis of clinical signs, or the bacteriological investigation results of the monitoring for the salmonellosis in poultry have been positive; in the opposite case it shall

beconsidered that the disease has officially been ruled out.

Broiler flocks: Rearing period

The disease shall be considered officially confirmed where the bacteriological investigation results, upon the examination of the dead bird carcasses and/or bedding and feed after the reported suspicion of disease on the basis of clinical signs, or the bacteriological investigation results of the monitoring for the salmonellosis in poultry have been positive; in the opposite case it shall be considered that the disease has officially been ruled out.

Broiler flocks: Before slaughter at farm

The disease shall be considered officially confirmed where the bacteriological investigation results, upon the examination of the dead bird carcasses and/or bedding and feed after the reported suspicion of disease on the basis of clinical signs, or the bacteriological investigation results of the monitoring for the salmonellosis in poultry have been positive; in the opposite case it shall be considered that the disease has officially been ruled out.

Diagnostic/analytical methods used

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

Other: Bacteriological method: Method in accordance with the OIE Manual, 5th ed., 2004; Modified ISO 6579: 2002 (Recommendation by the CRL)

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

Other: Bacteriological method: Method in accordance with the OIE Manual, 5th ed., 2004; Modified ISO 6579: 2002 (Recommendation by the CRL)

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

Other: Bacteriological method: Method in accordance with the OIE Manual, 5th ed., 2004; Modified ISO 6579: 2002 (Recommendation by the CRL)

Broiler flocks: Before slaughter at farm

Other: Bacteriological method: Method in accordance with the OIE Manual, 5th ed., 2004; Modified ISO 6579: 2002 (Recommendation by the CRL)

Vaccination policy

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

Vaccination of breeding flocks is voluntary.

Other preventive measures than vaccination in place

Broiler flocks

Persons, who in carrying out a registered activity of breeding or production come into direct contact with animals, foodstuffs, raw materials, products or waste, must have thorough knowledge in contagious animal diseases, the prevention thereof and transmissibility to man, and in the regulations governing the protection against contagious diseases. Animal holders must carry out preventive measures as for instance: providing potable water and feed that are fit for consumption; providing and maintaining the required conditions of hygiene in the animal breeding and auxiliary facilities; preventing the introduction into the breeding facilities of disease agents; implementing veterinary measures in the intensive animal rearing technology; handling as prescribed the animal carcasses and other waste, waste waters, faeces and urine; providing for the preventive disinfection, disinsectisation and deratisation (DDD) in the facilities, on public surfaces and in the means of transport.

Control program/mechanisms

The control program/strategies in place

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

National control programme is carried out in accordance with the national legislation, on the basis of the Rules on the monitoring of zoonoses and zoonotic agents in poultry breeding flocks (transposing Council Directive 92/117/EEC), and the Instructions on measures for the detection, prevention and suppression of salmonellosis. The control programme envisages inter alia as follows:

Immediately upon the reported suspicion of disease at the suspect holding, the following shall be instituted on the basis of an expert instruction: banning the movements and alienation of animals susceptible to the disease; banning the issuing of health certificates for animals susceptible to the disease; banning the trade in eggs for consumption;

banning the slaughter of animals susceptible to the disease; restricting the movements of persons coming into contact with the infected animal or animal suspected of being infected, and providing for and maintaining the appropriate conditions of hygiene in the facilities.

Measures shall be instituted as long as the suspicion of disease has not officially been ruled out.

Broiler flocks

National control programme is carried out in accordance with the national legislation, on the basis of the Instructions on measures for the detection, prevention and suppression of salmonellosis. The control programme envisages inter alia as follows:

Implementation of monitoring and immediate confirmation of the disease in case of the suspected presence on the basis of clinical signs or detection of the disease in other animals at the same holding, by taking samples for the diagnostic

purposes, epizootiological investigation, and instituting appropriate measures immediately upon suspecting the presence of disease at the suspect holding. Measures shall be instituted as long as the suspicion of disease has not officially been ruled out.

Instituting of supplementary measures in the infected holding.

Measures in case of the positive findings or single cases

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

See Breeding flocks for egg production.

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

See Breeding flocks for egg production.

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

On the official confirmation of disease, the following measures shall be instituted at the holding in addition to those instituted at the suspected presence of disease:

- incoming raw materials to constitute poultry feed shall be decontaminated by the appropriate procedure;
- premises, instruments and tools in the places of poultry feed production and storage shall be disinfected by the appropriate disinfectant;
- premises, installations, packaging and equipment in hatcheries and vehicles intended for the transport of poultry and eggs shall be disinfected by the appropriate procedure and disinfectant;
- hatching eggs shall be disinfected by the bactericidal gas immediately upon collection, as well as the hatchers;
- eggs placed in the hatcher on the same day shall be disinfected by the bactericidal gas on day 18 or 19;
- hatched poultry shall be disinfected by the bactericidal gas as long as it is still moist and in the hatcher;
- unhatched eggs, deformed hatchlings and other hatching waste shall be harmlessly disposed of;
- DDD measures shall be carried out in the infected poultry breeding facilities and in the facilities for the production of eggs and poultrymeat, and no later than the second day after disinfection, the bacteriological control of its efficiency shall be carried out;
- manure shall be removed from the perimeter of the holding, packed and not used for three months upon packing;
- poultry shall be treated by an appropriate antibiotic or chemotherapeutic agent on the basis of antibiogram, and
- other measures for sanitising the infected holding shall be implemented.

Measures instituted at the infected holding shall be lifted:

where the results of bacteriological investigations, carried out on days 5 and 10 after implementation of measures and completion of treatment, are negative.

Broiler flocks: Before slaughter at farm

On the official confirmation of disease, the following measures shall be instituted at the holding in addition to those instituted at the suspected presence of disease:

- incoming raw materials to constitute poultry feed shall be decontaminated by the appropriate procedure;
- premises, instruments and tools in the places of poultry feed production and storage shall be disinfected by the appropriate disinfectant;
- vehicles intended for the transport of poultry and eggs shall be disinfected by the appropriate procedure and disinfectant;
- DDD measures shall be carried out in the infected poultry breeding facilities and in the facilities for the production of eggs and poultrymeat, and no later than the second day after disinfection, the bacteriological control of its efficiency shall be carried out;
- manure shall be removed from the perimeter of the holding, packed and not used for three months upon packing;
- poultry shall be treated by an appropriate antibiotic or chemotherapeutic agent on the basis of antibiogram, and
- other measures for sanitising the infected holding shall be implemented.

Measures instituted at the infected holding shall be lifted:

where the results of bacteriological investigations, carried out on days 7 and 14 after implementation of measures and completion of treatment, are negative.

Notification system in place

Breeding flock: In case that by monitoring the presence of Salmonella in a breeding flock is detected, the holder of the flock must officially notify VARS of the results. The laboratory must submit the diagnostic test results to the Main Office of VARS. This method of reporting must be carried out in accordance with the provisions of the Rules on the monitoring of zoonoses and zoonotic agents in poultry breeding flocks (transposing Council Directive 92/117/EEC) since 2004, and prior to that date, the method of reporting diseases was used as prescribed in the Rules on contagious animal diseases.

Laying hens: In case of disease, the veterinary organisation must notify the relevant Regional Office of VARS, where the disease has been confirmed by the diagnostic test result. The report on the occurrence of disease is to be submitted on a monthly basis by the tenth day in a month for the previous month.

The authorised laboratory submits the diagnostic test results to the relevant Regional Office of VARS, and to the consigner of samples.

Once a month and no later than the 20th day in the month, the authorised laboratories and Regional Offices of VARS must report on the diagnostic test results to the Office for Contagious Animal Diseases within VARS.

This method of reporting is carried out in accordance with the provisions of the Rules on contagious animal diseases (applicable since 2002), and the reporting as such has been compulsory since 1996.

Results of the investigation

BREEDING FLOCKS - animals intended for the production of hatching eggs

In 2005, 72 laying hen parent flocks were tested - on the meat line, and thereof, 1 grand-parent flock. Salmonella was identified in 1 parent flock at production stage (1.4 %). *S. enteritidis* was

confirmed.

BROILERS (chicks for fattening) - animals intended for meat production

In 2005, Salmonella was detected in 7 flocks of 621 tested, amounting to 1.1 %. In two flocks the presence of *S. enteritidis* was confirmed, and in 1 flock of *S. typhimurium*.

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

There is no change as regards the total number of positive parent flocks (egg and meat production line). Similarly as in 2004, Salmonella was identified in 3 parent flocks, amounting to 3.4 %.

Situation concerning the prevalence of Salmonella in broiler flocks remains favourable.

C. Salmonella spp. in pigs

Monitoring system

Sampling strategy

Breeding herds

Disease is monitored on the basis of clinical signs and/or detection of salmonellosis in other animals in the same holding.

Multiplying herds

See Fattening herds

Fattening herds

Sampling is carried out continually throughout the year at all the registered porcine slaughter establishments, taking into account sample distribution with regard to rearing establishments. Sampled are animals raised in the Republic of Slovenia only.

A slaughter animal constitutes an epidemiological unit.

Sampling is carried out by the slaughterhouse official veterinarians.

Also see Breeding herds

Frequency of the sampling

Fattening herds at slaughterhouse (herd based approach)

Other: At slaughter establishments, 1 animal - 1 sample is sampled every month

Type of specimen taken

Fattening herds at slaughterhouse (herd based approach)

Other: 1 sample - 5 or more lymph nodes from the ileocaecal region

Methods of sampling (description of sampling techniques)

Breeding herds

Immediately upon suspicion of disease on the basis of clinical signs and/or detection of salmonellosis in other animals in the same holding, the authorised veterinary organisation must submit for investigation the dead animal carcasses, rectal swabs of suspect animals, samples of litter and feed.

Multiplying herds

See Breeding herds

Fattening herds at farm

See Breeding herds

Fattening herds at slaughterhouse (herd based approach)

Lymph nodes sampled are removed by a sterile instrument and stored in a sterile bag.

Samples must be delivered to the laboratory in the shortest possible time, and normally, immediately upon sampling, i.e. within the same day. During transport, samples must be chilled to +4 °C. Analyses should commence in the shortest possible time after sampling.

Case definition

Breeding herds

The disease shall be considered officially confirmed on the basis of the clinical signs and/or positive bacteriological test results; in the opposite case it shall be considered that the disease has been ruled out.

Multiplying herds

See Breeding herds

Fattening herds at farm

See Breeding herds

Fattening herds at slaughterhouse (herd based approach)

Positive animal means an animal, where a positive sample has been taken from. Positive sample means a sample, where the zoonotic agent has been isolated from.

Diagnostic/analytical methods used

Breeding herds

Other: Bacteriological method: Method according to the OIE Manual, 5th ed., 2004

Multiplying herds

Other: Bacteriological method: Method according to the OIE Manual, 5th ed., 2004

Fattening herds at farm

Other: Bacteriological method: Method according to the OIE Manual, 5th ed., 2004

Fattening herds at slaughterhouse (herd based approach)

Bacteriological method: ISO 6579:2002

Other preventive measures than vaccination in place

Breeding herds

Persons, who in carrying out a registered activity of breeding or production come into direct contact with animals, foodstuffs, raw materials, products or waste, must have thorough knowledge in contagious animal diseases, the prevention thereof and transmissibility to man, and in the regulations governing the protection against contagious diseases. Animal holders must carry out preventive measures as for instance: providing potable water and feed that are fit for consumption; providing and maintaining the required conditions of hygiene in the animal breeding and auxiliary facilities; preventing the introduction into the breeding facilities of disease agents; implementing veterinary measures in the intensive animal rearing technology; handling as prescribed the animal carcasses and other waste, waste waters, faeces and urine; providing for the preventive disinfection, disinsectisation and deratisation (DDD) in the facilities, on public surfaces and in the means of transport.

Multiplying herds

See Breeding herds

Fattening herds

See Breeding herds

Control program/mechanisms

The control program/strategies in place

Breeding herds

National control programme is carried out in accordance with the national legislation, on the basis of the Instructions on measures for the detection, prevention and suppression of salmonellosis. The control programme envisages inter alia as follows:

Immediate confirmation of the disease in case of suspected presence by taking samples for the diagnostic purposes, epizootiological investigation, and instituting appropriate measures immediately upon suspecting the presence of disease at the suspect holding. Measures shall be instituted as long as the suspicion of disease has not officially been ruled out.

Instituting of supplementary measures in the infected holding.

Measures in case of the positive findings or single cases

On the official confirmation of disease, the following measures shall be instituted at the holding in addition to those instituted at the suspected presence of disease:

- disinfection of incoming raw materials to constitute animal feed;
- treatment of infected animals with an appropriate antibiotic or chemotherapeutic agent on the basis of antibiogram;
- DDD measures;
- other measures for sanitising the infected holding

Notification system in place

VARS Regional Offices must report to VARS Main Office on a monthly basis regarding the monitoring programme implementation and control results.

Results of the investigation

In 2005, samples of ileocaecal lymph nodes of 242 porcine animals were taken. Salmonella was detected in 13 samples (5.37 %), where *S. enteritidis* was identified five times, *S. Virchow* and *S. Derby* twice, and *S. typhimurium*, *S. infantis*, *S. London* and *S. Senftenberg* once.

D. Salmonella spp. in bovine animals

Monitoring system

Sampling strategy

Sampling is carried out continually throughout the year at all the registered bovine slaughter establishments, taking into account sample distribution with regard to rearing establishments. Sampled are animals raised in the Republic of Slovenia only.

A slaughter animal constitutes an epidemiological unit.

Sampling is carried out by the slaughterhouse official veterinarians.

Passive monitoring in calves

Disease is monitored on the basis of clinical signs and/or detection of salmonellosis in other animals in the same holding.

Frequency of the sampling

Animals at slaughter (herd based approach)

Other: At slaughter establishments, 1 animal - 1 sample is sampled every month.

Type of specimen taken

Animals at slaughter (herd based approach)

Faeces

Methods of sampling (description of sampling techniques)

Animals at farm

Immediately upon suspicion of disease on the basis of clinical signs and/or detection of salmonellosis in other animals in the same holding, the authorised

veterinary organisation must submit for investigation the dead animal carcasses, rectal swabs of suspect animals, samples of litter and feed.

Animals at slaughter (herd based approach)

Faeces are sampled prior to slaughter, and after slaughter, following the evisceration, the intestinal wall is aseptically opened and the intestinal content removed from the intestines and stored in a sterile plastic bag.

Samples must be delivered to the laboratory in the shortest possible time, and normally, immediately upon sampling, i.e. within the same day. During transport, samples must be chilled to +4 °C. Analyses should commence in the shortest possible time after sampling.

Case definition

Animals at farm

The disease shall be considered officially confirmed on the basis of the clinical signs and/or positive bacteriological test results; in the opposite case it shall be considered that the disease has been ruled out.

Animals at slaughter (herd based approach)

Positive animal means an animal, where a positive sample has been taken from. Positive sample means a sample, where the zoonotic agent has been isolated from.

Diagnostic/analytical methods used

Animals at slaughter (herd based approach)

Bacteriological method: Modified by ISO 6579: 2002

Other preventive measures than vaccination in place

Persons, who in carrying out a registered activity of breeding or production come into direct contact with animals, foodstuffs, raw materials, products or waste, must have thorough knowledge in contagious animal diseases, the prevention thereof and transmissibility to man, and in the regulations governing the protection against contagious diseases. Animal holders must carry out preventive measures as for instance: providing potable water and feed that are fit for consumption; providing and maintaining the required conditions of hygiene in the animal breeding and auxiliary facilities; preventing the introduction into the breeding facilities of disease agents; implementing veterinary measures in the intensive animal rearing technology; handling as prescribed the animal carcasses and other waste, waste waters, faeces and urine; providing for the preventive disinfection, disinsectisation and deratisation (DDD) in the facilities, on public surfaces and in the means of transport.

Control program/mechanisms

The control program/strategies in place

National control programme is carried out in accordance with the national legislation, on

the basis of the Instructions on measures for the detection, prevention and suppression of salmonellosis. The control programme envisages inter alia as follows:

Immediate confirmation of the disease in case of suspected presence by taking samples for the diagnostic purposes, epizootiological investigation, and instituting appropriate measures immediately upon suspecting the presence of disease at the suspect holding. Measures shall be instituted as long as the suspicion of disease has not officially been ruled out.

Instituting of supplementary measures in the infected holding.

Measures in case of the positive findings or single cases

Measures in case of the positive findings or single cases:

On the official confirmation of disease, the following measures shall be instituted at the holding in addition to those instituted at the suspected presence of disease:

- disinfection of incoming raw materials to constitute animal feed;
- treatment of infected animals with an appropriate antibiotic or chemotherapeutic agent on the basis of antibiogram;
- DDD measures;
- other measures for sanitising the infected holding

Notification system in place

VARS Regional Offices must report to VARS Main Office on a monthly basis regarding the monitoring programme implementation and control results.

Results of the investigation

In 2005, 232 faeces samples were taken, and the presence of *S. Stanleyville* was confirmed in 1 sample.

Table Salmonella in breeding flocks of Gallus gallus

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Gallus gallus (fowl)							
grandparent breeding flocks for egg production line							
during production period	VARs	flock	4	0			
parent breeding flocks for egg production line							
during rearing period	VARs	flock	2	0			
during production period	VARs	flock	9	2	2		
grandparent breeding flocks for meat production line							
during production period	VARs	flock	1	0			
parent breeding flocks for meat production line							
day-old chicks	VARs	flock	17	0			
during rearing period	VARs	flock	23	0			
during production period	VARs	flock	31	1	1		

Table Salmonella in other poultry

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Menden	S. Saintpaul	S. Agona
Gallus gallus (fowl)										
laying hens										
during rearing period	VARs	flock	23	1			1			
during production period	VARs	flock	107	7	6			1		
broilers										
during rearing period	VARs	flock	621	7	2	1	4			
Turkeys										
meat production flocks										
day-old chicks	VARs	flock	13	1					1	
during rearing period	VARs	flock	72	8		1	6			1

Table Salmonella in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Derby	S. Virchow	S. Stanleyville	S. London	S. Senftenberg	S. Infantis
Cattle (bovine animals) - at slaughterhouse - animal sample - faeces - Monitoring - official sampling - objective sampling	VARs	animal	232	1						1			
Pigs fattening pigs - at slaughterhouse - animal sample - Monitoring - official sampling - objective sampling (1)	VARs	animal	242	13	5	1		2	2		1	1	1

(1) : Lymph nodes

2.1.4. Salmonella in feedingstuffs

A. Salmonella spp. in feed

History of the disease and/or infection in the country

In Slovenia feed was surveilled for the presence of Salmonella for decades. The prevalence was rather low and the isolated strains were generally the most susceptible to antimicrobials of all the strains tested. Many serovars were isolated only from feed and were not found later in the chain: feed-animal-food.

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

The recent situation reflects the efforts of controlling Salmonella in feed and is considered good.

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

The scope of serovars, isolated from feed, greatly differs from the scope found in animals and food. Of 14 strains tested for antimicrobial susceptibility only 2 were resistant, each to one antimicrobial only, so feed is not considered to be a relevant source of Salmonella for humans.

Recent actions taken to control the zoonoses

Feedinstuffs

Monitoring system:

- sampling strategy: target sampling (in accordance with the Programme of feed control in 2005)
- frequency of the sampling: domestic feed material of plant and animal origin, imported feed material of plant and animal origin, process control in feed mills
- preventative measures: own controls by holders of activity (HACCP)
- control programme: Program of feed control in 2005, in accordance with Article 34 of Animal Feed Act (UL RS 97/04)
- measures in case of positive findings: in accordance with Article 6 of the Rules on conditions for the health suitability of straight feedingstuffs, compound feedingstuffs, premixes and feed additives (UL RS 18/04 as amended)
- notification system in place: RASFF system and mutual notification between the competent authorities in the sector of food safety, in accordance with Decree coordinating the operation of ministries and agencies within them that are competent for food safety at inclusion into the risk analysis process (UL RS 56/03).

Additional information

Feedinstuffs

- frequency of the sampling: domestic feed material of plant and animal origin (82 samples), imported feed material of plant and animal origin (27 samples), process control in feed mills (260 samples)
- description of sampling techniques: in accordance with the Rules of the official methods of sampling for the monitoring and inspection and control of animal feed, additives and premixes (UL RS 41/03)

- definition of positive finding: analysis result (1 = positive, 0 = negative)
- analytical methods used: ISO/FDIS 6579:2002 SOP 221

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
Feed material of land animal origin								
dairy products	VARs	batch	25g	1	0			
Feed material of marine animal origin								
fish meal	VARs	batch	25g	6	0			

Table Salmonella in other feed matter

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Typhimurium	S. Enteritidis	Salmonella spp., unspecified	S. Agona
Feed material of cereal grain origin									
other cereal grain derived	IRSAFF	batch	25g	6	0				
Feed material of oil seed or fruit origin									
sunflower seed derived	IRSAFF	batch	25g	1	1				1
other oil seeds derived	IRSAFF	batch	25g	2	0				
Other feed material									
tubers, roots and similar products	IRSAFF	batch	25g	1	0				
other seeds and fruits	IRSAFF	batch	25g	17	0				

Footnote

IRSAFF - Inspectorate for Agriculture, Forestry and food

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Typhimurium	S. Enteritidis	Salmonella spp., unspecified	S. Tennessee	S. Havana	S. Senftenberg
Compound feedingstuffs for cattle											
final product	VARs	batch	25g	47	0						
Compound feedingstuffs for pigs											
final product	VARs	batch	25g	101	1					1	
Compound feedingstuffs for poultry (non specified)											
final product	VARs	batch	25g	127	1				1		
Pet food											
dog snacks (pig ears, chewing bones)	VARs	batch	25g	5	0						
Compound feedingstuffs for fish	VARs	batch	25g	4	1						1
Compound feedingstuffs for horses	VARs	batch	25g	1	0						
Compound feedingstuffs for rabbits	VARs	batch	25g	7	0						
Compound feedingstuffs, not specified	VARs	batch	25g	3	0						

2.1.5. Salmonella serovars and phagetype distribution

Table Salmonella serovars in animals

Serovars		Turtles - in total - Surveillance		Snakes - in total - Surveillance		Reptiles - in total - Surveillance	Turkeys - in total - Monitoring	Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Other poultry	
		M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)
Sources of isolates															
Number of isolates in the laboratory		N=													
Number of isolates serotyped		N=													
Number of isolates per type															
S. Agona							1		11						
S. Blukwa			1												
S. Derby							1								
S. Enteritidis						1						27			
S. IV 16:z4,z32:-						1									
S. Infantis												2			
S. Kisii												1			
S. Mbandaka												2			
S. Meleagridis												1			
S. Menden												1			
S. Newport			1												
S. Saintpaul							9					1			
S. Sandiego							4					1			
S. Senftenberg												2			

[illegible]

Footnote

(*) M : Monitoring, C : Clinical
Source of information NVI

Table Salmonella serovars in food (Part A)

Serovars	Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Other poultry		Other products of animal origin		Meat from pig - carcass		Meat from turkey - offal - liver		Meat from bovine animals and pig		Meat from poultry, unspecified - meat products		Meat from bovine animals - minced meat		Meat from pig - meat products		Meat from broilers (Gallus gallus) - offal - liver	
	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)
Sources of isolates	N=																							
Number of isolates in the laboratory			5		1						13		2		5		6		1		6		3	
Number of isolates serotyped			5		1						13		1		5		6		1		6		3	
Number of isolates per type																								
S. Blockley																	1							
S. Bredeney															1									
S. Derby									1									1						
S. Enteritidis					1				5				2										3	
S. Haardt																	1							
S. Heidelberg																								
S. Infantis											1										2			
S. London									1															
S. Saintpaul									1															

[illegible]

(1) : Group O:7(C1)

Footnote

(*) M : Monitoring, C : Clinical
Source of information NVI

Table Salmonella serovars in food (Part B)

Serovars	Meat from turkey - carcass		Meat from rabbit - mechanically separated meat (MSM)		Meat from pig - minced meat		Egg products - liquid		Meat from turkey - mechanically separated meat (MSM)		Meat from broilers (Gallus gallus) - mechanically separated meat (MSM)	
	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)
	Sources of isolates											
	Number of isolates in the laboratory											
	N= 2		2		2		1		11		6	
	N= 2		2		2		1		11		6	
Number of isolates per type												
S. Blockley												
S. Bredeney												
S. Derby												

[illegible]

(1) : Group O:7(C1)

Footnote

(*) M : Monitoring, C : Clinical
Source of information NVI

2.1.6. Antimicrobial resistance in Salmonella isolates

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.

A. Antimicrobial resistance in Salmonella in cattle

Sampling strategy used in monitoring

Frequency of the sampling

Subjected to test are isolates obtained within the monitoring of zoonoses and zoonotic agents.

See the monitoring for Salmonella in bovine animals.

Likewise the isolates were selected out of those available at the National Veterinary Institute, at least one isolate from each epidemiological unit.

Type of specimen taken

See the monitoring for Salmonella in bovine animals.

Methods of sampling (description of sampling techniques)

See the monitoring for Salmonella in bovine animals.

Procedures for the selection of isolates for antimicrobial testing

At least one isolate from each epidemiological unit.

Methods used for collecting data

Report of results obtained within the monitoring are reported to the VARS Main Office.

Laboratory methodology used for identification of the microbial isolates

See the monitoring for Salmonella in bovine animals.

Disc diffusion method according to the CLSI (former NCCLS).

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Aminoglycosides: streptomycin, neomycin, kanamycin, gentamycin, spectinomycin

Amphenicols: Chloramphenicol, fluorphenicol

Beta-lactamic: ampicillin and amoxycillin; amoxycillin/clavulanic acid

Cephalosporins: cephotaxim

Quinolones: nalidixinic acid

Fluoroquinolones: enrofloxacin, ciprofloxacin, flumequine

Sulphonamides: sulfonamides,
trimethoprim-sulphonamide, trimethoprim

Tetracyclines: tetracycline

Breakpoints used in testing

According to CLSI (former NCCLS)

Control program/mechanisms

Recent actions taken to control the zoonoses

Introduced monitoring.

Notification system in place

NRL-Salmonella reports to VARS at least once a year.

Results of the investigation

Of the three tested stains one strain of Salmonella Typhimurium was resistant to 9 of 18 antimicrobials tested.

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

In the year 2005 there were just a few isolates from cattle, but the multiresistant strain of S. Typhimurium indicates, that there might be a problem with multiresistant strains in the future.

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

The spread of multiresistant S. Typhimurium strains indicates that cattle might become a source of such strains for humans, too.

B. Antimicrobial resistance in Salmonella in pigs

Sampling strategy used in monitoring

Frequency of the sampling

Subjected to test are isolates obtained within the monitoring of zoonoses and zoonotic agents.

See the monitoring for Salmonella in pigs.

Likewise the isolates were selected out of those available at the National Veterinary Institute, at least one isolate from each epidemiological unit.

Type of specimen taken

See the monitoring for Salmonella in pigs.

Methods of sampling (description of sampling techniques)

See the monitoring for Salmonella in pigs.

Procedures for the selection of isolates for antimicrobial testing

At least one isolate from each epidemiological unit.

Methods used for collecting data

Report of results obtained within the monitoring in processing plants, are reported to the VARS Main Office.

Laboratory methodology used for identification of the microbial isolates

See the monitoring for Salmonella in pigs.

Disc diffusion method according to the CLSI (former NCCLS).

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Aminoglycosides: streptomycin, neomycin, kanamycin, gentamycin, spectinomycin

Amphenicols: Chloramphenicol, fluorphenicol

Beta-lactamic: ampicillin and amoxycillin; amoxycillin/clavulanic acid

Cephalosporins: cephotaxim

Quinolones: nalidixinic acid

Fluoroquinolones: enrofloxacin, ciprofloxacin, flumequine

Sulphonamides: sulfonamides,
trimethoprim-sulphonamide, trimethoprim

Tetracyclines: tetracycline

Breakpoints used in testing

According to CLSI (former NCCLS).

Control program/mechanisms

Recent actions taken to control the zoonoses

Introduced monitoring.

Notification system in place

NRL-Salmonella reports to VARS at least once a year.

Results of the investigation

Results for the 11 strains out of 13 isolated from pig lymph nodes are presented in the chapter E (Food from pigs).

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

Since multiresistant strains of *S. Typhimurium* were found in pig lymph nodes, its spread in pig population should be considered as a potential danger for its spread to humans, too.

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

A possible spread of multiresistant *S. Typhimurium* should be considered and adequate measures should be taken to minimise this threat.

C. Antimicrobial resistance in Salmonella in poultry

Sampling strategy used in monitoring

Frequency of the sampling

Subjected to test are isolates obtained within the monitoring of zoonoses and zoonotic agents.

See the monitoring for *Salmonella* in poultry.

Likewise the isolates were selected out of those available at the National Veterinary Institute, at least one isolate from each epidemiological unit.

Type of specimen taken

See the monitoring for *Salmonella* in poultry.

Methods of sampling (description of sampling techniques)

See the monitoring for *Salmonella* in poultry.

Procedures for the selection of isolates for antimicrobial testing

At least one isolate from each epidemiological unit.

Methods used for collecting data

Report of results obtained within the monitoring in processing plants, are reported to the VARS Main Office.

Laboratory methodology used for identification of the microbial isolates

See the monitoring for *Salmonella* in poultry.

Disc diffusion method according to the CLSI (former NCCLS).

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Aminoglycosides: streptomycin, neomycin, kanamycin, gentamycin, spectinomycin

Amphenicols: Chloramphenicol, fluorphenicol

Beta-lactamic: ampicillin and amoxycillin; amoxycillin/clavulonic acid

Cephalosporins: cephotaxim

Quinolones: nalidixinic acid

Fluoroquinolones: enrofloxacin, ciprofloxacin, flumequine
Sulphonamides: sulfonamides,
trimethoprim-sulphonamide, trimethoprim
Tetracyclines: tetracycline

Breakpoints used in testing

According to CLSI (former NCCLS)

Control program/mechanisms

Recent actions taken to control the zoonoses

Introduced monitoring.

Notification system in place

NRL-Salmonella reports to VARS at least once a year.

Results of the investigation

Of the 29 strains tested, only two were resistant: *S. Enteritidis* to fluorfenicol and *S. Senftenberg* to streptomycin.

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

The situation seems to be good. Poultry is not considered to be an important source of multiresistant *Salmonella* strains for humans.

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

Although poultry is considered to be a major source of *Salmonella* for humans, it is not considered to be the major source of multiresistant strains, too. The most prevalent serovar is *S. Enteritidis*, which is much more sensitive than *S. Typhimurium*.

D. Antimicrobial resistance in *Salmonella* in foodstuff derived from cattle

Sampling strategy used in monitoring

Frequency of the sampling

Subjected to test are isolates obtained within the monitoring of zoonoses and zoonotic agents.

See the monitoring for *Salmonella* in bovine meat - at processing plants.

Likewise the isolates were selected out of those available at the National Veterinary Institute, at least one isolate from each epidemiological unit.

Type of specimen taken

See the monitoring for *Salmonella* in bovine meat - at processing plants.

Methods of sampling (description of sampling techniques)

See the monitoring for Salmonella in bovine meat - at processing plants.

Procedures for the selection of isolates for antimicrobial testing

At least one isolate from each epidemiological unit.

Methods used for collecting data

Report of results obtained within the monitoring in processing plants are reported to the VARS Main Office.

Laboratory methodology used for identification of the microbial isolates

See the monitoring for Salmonella in bovine meat - at processing plants.

Disc diffusion method according to the CLSI (former NCCLS).

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Aminoglycosides: streptomycin, neomycin, kanamycin, gentamycin, spectinomycin

Amphenicols: Chloramphenicol, fluorphenicol

Beta-lactamic: ampicillin and amoxycillin; amoxycillin/clavulanic acid

Cephalosporins: cephotaxim

Quinolones: nalidixinic acid

Fluoroquinolones: enrofloxacin, ciprofloxacin, flumequine

Sulphonamides: sulfonamides,
trimethoprim-sulphonamide, trimethoprim

Tetracyclines: tetracycline

Breakpoints used in testing

According to CLSI (former NCCLS).

Control program/mechanisms

Recent actions taken to control the zoonoses

Introduced monitoring.

Notification system in place

NRL-Salmonella reports to VARS at least once a year.

Results of the investigation

A multiresistant strain of *S. Typhimurium* was found, resistant to 9 of the 19 antimicrobials tested. Another *S. Typhimurium* strain, resistant to 9 antimicrobials, but with a different resistance pattern was isolated from the mixed cattle and pig minced meat.

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

Till this year cattle was not considered to be a major source of multiresistant strains of Salmonella, but the finding of multiresistant S. Typhimurium strains indicates its spread to cattle, so the danger should not be neglected.

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

The finding of multiresistant S. Typhimurium strains indicates that the danger of its spread to humans should not be neglected and the adequate measures should be taken to prevent it as much as possible.

E. Antimicrobial resistance in Salmonella in foodstuff derived from pigs

Sampling strategy used in monitoring

Frequency of the sampling

Subjected to test are isolates obtained within the monitoring of zoonoses and zoonotic agents.

See the monitoring for Salmonella in pig meat - at processing plants

Likewise the isolates were selected out of those available at the National Veterinary Institute, at least one isolate from each epidemiological unit.

Type of specimen taken

See the monitoring for Salmonella in pig meat - at processing plants

Methods of sampling (description of sampling techniques)

See the monitoring for Salmonella in pig meat - at processing plants

Procedures for the selection of isolates for antimicrobial testing

At least one isolate from each epidemiological unit.

Methods used for collecting data

Report of results obtained within the monitoring in processing plants, are reported to the VARS Main Office.

Laboratory methodology used for identification of the microbial isolates

See the monitoring for Salmonella in pig meat - at processing plants.

Disc diffusion method according to the CLSI (former NCCLS).

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Aminoglycosides: streptomycin, neomycin, kanamycin, gentamycin, spectinomycin

Amphenicols: Chloramphenicol, fluorphenicol

Beta-lactamic: ampicillin and amoxycillin; amoxycillin/clavulanic acid

Cephalosporins: cephalexin
Quinolones: nalidixic acid
Fluoroquinolones: enrofloxacin, ciprofloxacin
Sulphonamides: sulfonamides,
trimethoprim-sulphonamide, trimethoprim
Tetracyclines: tetracycline

Breakpoints used in testing

According to CLSI (former NCCLS).

Control program/mechanisms

Recent actions taken to control the zoonoses

Introduced monitoring.

Notification system in place

NRL-Salmonella reports to VARS at least once a year.

Results of the investigation

Of the 11 strains, isolated from pig lymph nodes, two strains of *S. Typhimurium* (ST) were resistant to 12 and 6 antimicrobials respectively, and one strain of *S. Derby* to 4 antimicrobials of the 18 tested.

Of the remaining 7 resistant strains one strain of *S. Virchow* was resistant to 15 of the 18 antimicrobials tested, one ST to 8, one ST to 6, one ST to 5 antimicrobials. Two strains (*S. Derby* and *S. Saintpaul*) were resistant to 4 and one ST to 3 antimicrobials.

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

The findings indicate the spread of multiresistant *S. Typhimurium* strains, so the adequate measures should be taken to minimize the risk of its spread to humans.

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

The spread of multiresistant *Salmonella* strains in pigs should be considered as a potential risk for humans.

F. Antimicrobial resistance in Salmonella in foodstuff derived from poultry

Sampling strategy used in monitoring

Frequency of the sampling

Subjected to test are isolates obtained within the monitoring of zoonoses and zoonotic agents.

See the monitoring for *Salmonella* in poultry meat - at processing plants.

Likewise the isolates were selected out of those available at the National Veterinary Institute, at least one isolate from each epidemiological unit.

Type of specimen taken

See the monitoring for Salmonella in poultry meat - at processing plants.

Methods of sampling (description of sampling techniques)

See the monitoring for Salmonella in poultry meat - at processing plants.

Procedures for the selection of isolates for antimicrobial testing

At least one isolate from each epidemiological unit.

Methods used for collecting data

Report of results obtained within the monitoring in processing plants, are reported to the VARS Main Office.

Laboratory methodology used for identification of the microbial isolates

See the monitoring for Salmonella in poultry meat - at processing plants.

Disc diffusion method according to the CLSI (former NCCLS).

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Aminoglycosides: streptomycin, neomycin, kanamycin, gentamycin, spectinomycin

Amphenicols: Chloramphenicol, fluorphenicol

Beta-lactamic: ampicillin and amoxycillin; amoxycillin/clavulanic acid

Cephalosporins: cephotaxim

Quinolones: nalidixinic acid

Fluoroquinolones: enrofloxacin, ciprofloxacin

Sulphonamides: sulfonamides,
trimethoprim-sulphonamide, trimethoprim

Tetracyclines: tetracycline

Breakpoints used in testing

According to CLSI (former NCCLS).

Control program/mechanisms

Recent actions taken to control the zoonoses

Introduced monitoring.

Notification system in place

NRL-Salmonella reports to VARS at least once a year.

Results of the investigation

Alltogether 19 resistant strains were tested, of which 11 were isolated from turkeys.

Multiresistant *S. Typhimurium* strains were resistant to: one to 12 antimicrobials, one to 10, one to 9, six to 8 antimicrobials of the 18 tested. The remaining 10 strains of different serovars were resistant: three to 5 antimicrobials, two to 4, two to 3 and three to 1 antimicrobial.

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

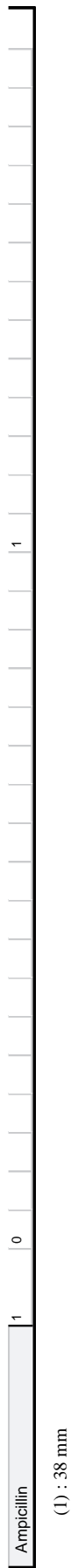
Although the results of poultry examinations for *Salmonella* do not indicate the poultry to be the major source of multiresistant strains, the examinations of food derived from poultry does not corroborate this opinion. Turkeys seem to be a possible source of highly multiresistant strains of *S. Typhimurium*. The other serovars, isolated from poultry, were more susceptible. Regarding big consumption of poultry meat, this might become an important source of multiresistant strains for humans.

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

The findings indicate that poultry (specially turkeys) might become an important source of multiresistant *Salmonella* strains for humans.

Table Antimicrobial susceptibility testing of *S. Agona* in Turkeys - unspecified - at farm - environmental sample - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																						
S. Agona																																						
Turkeys - unspecified - at farm - environmental sample - Monitoring																																						
Isolates out of a monitoring programme		yes																																				
Number of isolates available in the laboratory		1																																				
		N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Antimicrobials:		1	0																				1															
Tetracyclines		1	0																																			
Amphenicols		1	0																				1															
Chloramphenicol		1	0																																			
Florfenicol		1	0																																			
Cephalosporins		1	0																																			
Cefotaxim		1	0																																			
Fluoroquinolones		1	0																																			
Ciprofloxacin(1)		1	0																																			
Enrofloxacin		1	0																																			
Quinolones		1	0																																			
Nalidixic acid		1	0																																			
Trimethoprim		1	0																																			
Sulfonamides		1	0																																			
Sulfonamide		1	0																																			
Aminoglycosides		1	0																																			
Streptomycin		1	0																																			
Gentamicin		1	0																																			
Neomycin		1	0																																			
Kanamycin		1	0																																			
Spectinomycin		1	0																																			
Trimethoprim + sulfonamides		1	0																																			
Penicillins		1	0																																			
Amoxicillin		1	0																																			
Amoxicillin/Clavulanic acid		1	0																																			



Ampicillin

(1) : 38 mm

Table Antimicrobial susceptibility testing of *S. Agona* in Cattle (bovine animals) - at farm - Clinical investigations - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																						
S. Agona																																						
Cattle (bovine animals) - at farm - Clinical investigations																																						
Isolates out of a monitoring programme		no																																				
Number of isolates available in the laboratory		1																																				
Antimicrobials:		N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Tetracyclines		1	0																										1									
Amphenicols		1	0																								1											
Chloramphenicol		1	0																																			
Florfenicol		1	0																																			
Cephalosporins		1	0																																			
Cefotaxim(2)		1	0																																			
Fluoroquinolones		1	0																																			
Ciprofloxacin(1)		1	0																																			
Enrofloxacin		1	0																																			
Quinolones		1	0																																			
Nalidixic acid		1	0																																			
Trimethoprim		1	0																																			
Sulfonamides		1	0																																			
Sulfonamide		1	0																																			
Aminoglycosides		1	0																																			
Streptomycin		1	0																																			
Gentamicin		1	0																																			
Neomycin		1	0																																			
Kanamycin		1	0																																			
Spectinomycin		1	0																																			
Trimethoprim + sulfonamides		1	0																																			
Penicillins		1	0																																			
Amoxicillin		1	0																																			
Amoxicillin/Clavulanic acid		1	0																																			

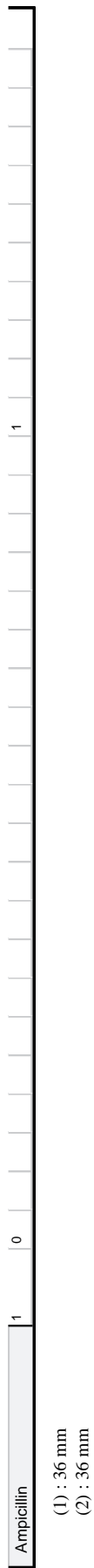


Table Antimicrobial susceptibility testing of S. Agona - qualitative data

n = Number of resistant isolates				
	S. Agona			
	Cattle (bovine animals) - at farm - Clinical investigations		Turkeys - unspecified - at farm - environmental sample - Monitoring	
Isolates out of a monitoring programme	no		yes	
Number of isolates available in the laboratory	1		1	
Antimicrobials:	N	n	N	n
Tetracyclines	1	0	1	0
Amphenicols				
Chloramphenicol	1	0	1	0
Florfenicol	1	0	1	0
Cephalosporins				
Cefotaxim	1	0	1	0
Fluoroquinolones				
Ciprofloxacin	1	0	1	0
Enrofloxacin	1	0	1	0
Quinolones				
Nalidixic acid	1	0	1	0
Trimethoprim	1	0	1	0
Sulfonamides				
Sulfonamide	1	0	1	0
Aminoglycosides				
Streptomycin	1	0	1	0
Gentamicin	1	0	1	0
Neomycin	1	0	1	0
Kanamycin	1	0	1	0
Spectinomycin	1	0	1	0
Trimethoprim + sulfonamides	1	0	1	0
Penicillins				
Amoxicillin	1	0	1	0
Amoxicillin/Clavulanic acid	1	0	1	0
Ampicillin	1	0	1	0

Table Antimicrobial susceptibility testing of *S. Agona* in All feedingstuffs - Monitoring - quantitative data [Diffusion method]

[illegible]



Table Antimicrobial susceptibility testing of S. Agona - qualitative data

n = Number of resistant isolates		
	S. Agona	
	All feedingstuffs - Monitoring	
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of S. Blockley - qualitative data

n = Number of resistant isolates

	S. Blockley	
	Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - Monitoring	
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	1
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
3rd generation cephalosporins	1	0
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Flumequin	1	0
Quinolones		
Nalidixic acid	1	1
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	1
Gentamicin	1	0
Neomycin	1	1
Kanamycin	1	1
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

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[illegible]

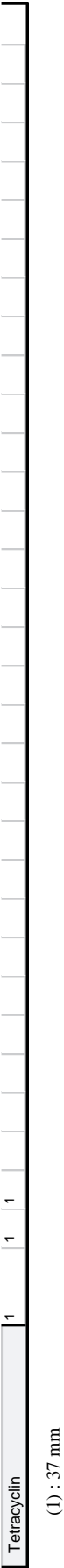


Table Antimicrobial susceptibility testing of S. Blukwa in Snakes - zoo animal - at zoo - Clinical investigations - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																								
S. Blukwa																																								
Snakes - zoo animal - at zoo - Clinical investigations																																								
Isolates out of a monitoring programme		no																																						
Number of isolates available in the laboratory		1																																						
Antimicrobials:		N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35			
Tetracyclines		1	0																																					
Amphenicols		1	0																																					
Chloramphenicol		1	0																																					
Florfenicol		1	0																																					
Cephalosporins		1	0																																					
Cefotaxim(4)		1	0																																					
Fluoroquinolones		1	0																																					
Ciprofloxacin(1)		1	0																																					
Enrofloxacin(2)		1	0																																					
Quinolones		1	0																																					
Nalidixic acid		1	0																																					
Trimethoprim(3)		1	0																																					
Sulfonamides		1	0																																					
Sulfonamide		1	0																																					
Aminoglycosides		1	0																																					
Streptomycin		1	0																																					
Gentamicin		1	0																																					
Neomycin		1	0																																					
Kanamycin		1	0																																					
Spectinomycin		1	0																																					
Trimethoprim + sulfonamides		1	0																																					
Penicillins		1	0																																					
Amoxicillin		1	0																																					
Amoxicillin/Clavulanic acid		1	0																																					



Table Antimicrobial susceptibility testing of S. Blukwa - qualitative data

n = Number of resistant isolates		
	S. Blukwa	
	Snakes - zoo animal - at zoo - Clinical investigations	
Isolates out of a monitoring programme	no	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of S. Bredeney in Meat from bovine animals and pig - at processing plant - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																		
S. Bredeney																																		
Meat from bovine animals and pig - at processing plant - Monitoring																																		
Isolates out of a monitoring programme		yes																																
Number of isolates available in the laboratory		1																																
Antimicrobials:		N	u	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Amphenicols																																		
Chloramphenicol		1	0																						1									
Florfenicol		1	0																					1										
Cephalosporins																																		
Cefotaxim		1	0																														1	
Fluoroquinolones																																		
Ciprofloxacin		1	0																														1	
Enrofloxacin		1	0																											1				
Quinolones																																		
Nalidixic acid		1	0																															
Trimethoprim		1	0																													1		
Sulfonamides																																		
Sulfonamide		1	0																													1		
Aminoglycosides																																		
Streptomycin		1	0																															
Gentamicin		1	0																															
Neomycin		1	0																															
Kanamycin		1	0																															
Spectinomycin		1	0																															
Trimethoprim + sulfonamides		1	0																														1	
Penicillins																																		
Amoxicillin		1	0																															
Amoxicillin/Clavulanic acid		1	0																													1		
Ampicillin		1	0																													1		
Tetracyclines																																		



Table Antimicrobial susceptibility testing of S. Bredeney - qualitative data

n = Number of resistant isolates

S. Bredeney		
Meat from bovine animals and pig - at processing plant - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Flumequin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of *S. Cubana* in All feedingsuffs - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																						
S. Cubana																																						
All feedingsuffs - Monitoring																																						
Isolates out of a monitoring programme		yes																																				
Number of isolates available in the laboratory		1																																				
Antimicrobials:		N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Tetracyclines		1																													1							
Amphenicols																																						
Chloramphenicol		1																													1							
Florfenicol		1																															1					
Cephalosporins																																						
Cefotaxim(4)		1																																				1
Fluoroquinolones																																						
Ciprofloxacin(1)		1																																				1
Enrofloxacin(2)		1																																				1
Quinolones																																						
Nalidixic acid		1																																				1
Trimethoprim																																						
Trimethoprim		1																																				1
Sulfonamides																																						
Sulfonamide		1																																				1
Aminoglycosides																																						
Streptomycin		1																																				1
Gentamicin		1																																				
Neomycin		1																																				1
Kanamycin		1																																				1
Spectinomycin		1																																				
Trimethoprim + sulfonamides(3)		1																																				1
Penicillins																																						
Amoxicillin		1																																				1
Amoxicillin/Clavulanic acid		1																																				1



Table Antimicrobial susceptibility testing of S. Cubana - qualitative data

n = Number of resistant isolates

S. Cubana		
All feedingstuffs - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of S. Derby - qualitative data

n = Number of resistant isolates		
	S. Derby	
	Turkeys - at farm - environmental sample - Monitoring	
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	1
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	1
Gentamicin	1	0
Neomycin	1	1
Kanamycin	1	1
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

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Number of resistant isolates (n) and number of isolates with the concentration ($\mu\text{l/ml}$) or zone (mm) of inhibition equal to		
S. Derby		
Turkeys - at farm - environmental sample - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	
Tetracyclines	1	
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin(1)	1	0
Enrofloxacin(2)	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	1
Gentamicin	1	0
Neomycin	1	1
Kanamycin	1	1
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Ampicillin/Cloxacilic acid	1	0



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

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																		
S. Derby																																		
Meat from pig - meat products - Monitoring																																		
Isolates out of a monitoring programme	yes																																	
Number of isolates available in the laboratory	1																																	
Antimicrobials:	N																																	
Amphenicols																																		
Chloramphenicol	1	0																		1														
Florfenicol	1	0																				1												
Cephalosporins																																		
Cefotaxim(3)	1	0																														1		
Fluoroquinolones																																		
Ciprofloxacin(1)	1	0																														1		
Enrofloxacin(2)	1	0																														1		
Flumequin	1	0																												1				
Quinolones																																		
Nalidixic acid	1	0																					1											
Trimethoprim	1	0																							1									
Sulfonamides																																		
Sulfonamide	1	1	1																															
Aminoglycosides																																		
Streptomycin	1	1	1																															
Gentamicin	1	0																								1								
Neomycin	1	0																		1														
Kanamycin	1	0																									1							
Spectinomycin	1	1	1																															
Trimethoprim + sulfonamides	1	0																									1							
Penicillins																																		
Amoxicillin	1	0																											1					
Amoxicillin/Clavulanic acid	1	0																												1				
Ampicillin	1	0																												1				

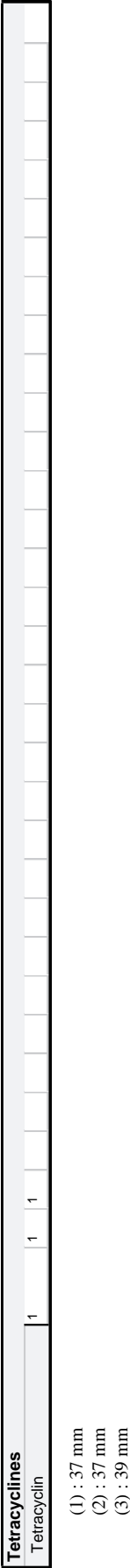


Table Antimicrobial susceptibility testing of S. Derby - qualitative data

n = Number of resistant isolates

	S. Derby			
	Meat from pig - carcass - Monitoring		Meat from pig - meat products - Monitoring	
Isolates out of a monitoring programme	yes		yes	
Number of isolates available in the laboratory	1		1	
Antimicrobials:	N	n	N	n
Tetracyclines	1	1	1	1
Amphenicols				
Chloramphenicol	1	0	1	0
Florfenicol	1	0	1	0
Cephalosporins				
Cefotaxim	1	0	1	0
Fluoroquinolones				
Ciprofloxacin	1	0	1	0
Enrofloxacin	1	0	1	0
Flumequin	1	0	1	0
Quinolones				
Nalidixic acid	1	0	1	0
Trimethoprim	1	0	1	0
Sulfonamides				
Sulfonamide	1	0	1	1
Aminoglycosides				
Streptomycin	1	1	1	1
Gentamicin	1	0	1	0
Neomycin	1	1	1	0
Kanamycin	1	1	1	0
Spectinomycin	1	0	1	1
Trimethoprim + sulfonamides	1	0	1	0
Penicillins				
Amoxicillin	1	0	1	0
Amoxicillin/Clavulanic acid	1	0	1	0
Ampicillin	1	0	1	0

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

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																
S. Derby																																
Meat from pig - carcass - Monitoring																																
Isolates out of a monitoring programme	yes																															
	1																															
Number of isolates available in the laboratory																																
Antimicrobials:	N	n	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Amphenicols																																
Chloramphenicol	1	0																				1										
Florfenicol	1	0																			1											
Cephalosporins																																
Cefotaxim(3)	1	0																														1
Fluoroquinolones																																
Ciprofloxacin(1)	1	0																														1
Enrofloxacin(2)	1	0																														1
Flumequin	1	0																											1			
Quinolones																																
Nalidixic acid	1	0																														1
Trimethoprim	1	0																														1
Sulfonamides																																
Sulfonamide	1	0																														1
Aminoglycosides																																
Streptomycin	1	1	1																													
Gentamicin	1	0																				1										
Neomycin	1	1	1																													
Kanamycin	1	1	1																													
Spectinomycin	1	0																			1											
Trimethoprim + sulfonamides	1	0																											1			
Penicillins																																
Amoxicillin	1	0																														1
Amoxicillin/Clavulanic acid	1	0																														1
Ampicillin	1	0																														1

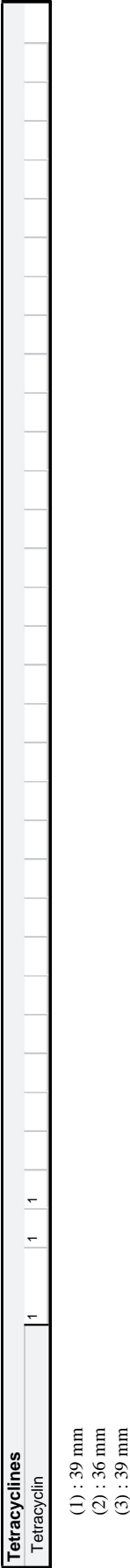


Table Antimicrobial susceptibility testing of S. Enteritidis in animals

n = Number of resistant isolates

	S. Enteritidis									
	Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Turkeys		Reptiles	
Isolates out of a monitoring programme	no		no		yes		no		no	
Number of isolates available in the laboratory	0		0		22		0		1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n
Tetracyclines					22	0			1	0
Amphenicols										
Chloramphenicol					22	0			1	0
Florfenicol					22	1			1	0
Cephalosporins										
Cefotaxim					22	0			1	0
Fluoroquinolones										
Ciprofloxacin					22	0			1	0
Enrofloxacin					22	0			1	0
Flumequin					4	0				
Quinolones										
Nalidixic acid					22	0			1	0
Trimethoprim					22	0			1	0
Sulfonamides										
Sulfonamide					22	0			1	1
Aminoglycosides										
Streptomycin					22	0			1	1
Gentamicin					22	0			1	1
Neomycin					22	0			1	0
Kanamycin					22	0			1	0
Spectinomycin					22	0			1	1
Trimethoprim + sulfonamides					22	0			1	0
Penicillins										
Amoxicillin					22	0			1	0
Amoxicillin/Clavulanic acid					22	0			1	0
Ampicillin					22	0			1	0
Fully sensitive					21					
Resistant to 1 antimicrobial					22	1				
Resistant to 4 antimicrobials									1	1

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - unspecified - at farm - environmental sample - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																							
S. Enteritidis																																							
Gallus gallus (fowl) - unspecified - at farm - environmental sample - Monitoring																																							
Isolates out of a monitoring programme	yes																																						
	5																																						
Number of isolates available in the laboratory																																							
Antimicrobials:	N	5	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Tetracyclines																																							
Amphenicols																																							
Chloramphenicol	5	0																																					
Florfenicol	5	1	1																	1																			
Cephalosporins																																							
Cefotaxim(5)	5	0																																					5
Fluoroquinolones																																							
Ciprofloxacin(1)	5	0																																					5
Enrofloxacin(2)	5	0																																	1	1	1	2	
Quinolones																																							
Nalidixic acid	5	0																											1	1	2								
Trimethoprim(3)	5	0																																					
Sulfonamides																																							
Sulfonamide	5	0																											2	1									
Aminoglycosides																																							
Streptomycin	5	0																																					
Gentamicin	5	0																											1	1	3								
Neomycin	5	0																																					
Kanamycin	5	0																																					
Spectinomycin	5	0																																					
Trimethoprim + sulfonamides(4)	5	0																																					
Penicillins																																							
Amoxicillin	5	0																																					
Amoxicillin/Clavulanic acid	5	0																																					

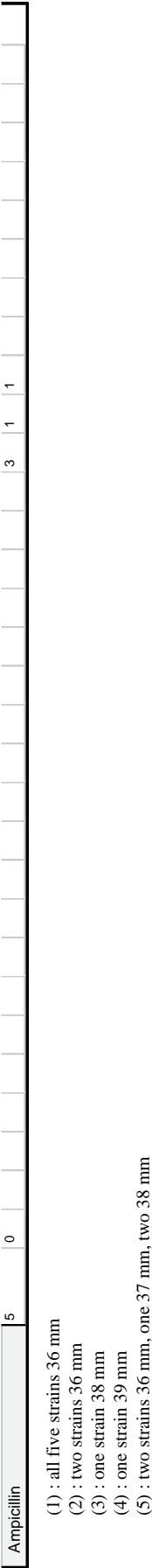


Table Antimicrobial susceptibility testing of *S. Enteritidis* in *Gallus gallus* (fowl) - unspecified - at farm - animal sample - organ/tissue - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration ($\mu\text{l/ml}$) or zone (mm) of inhibition equal to																																							
<i>S. Enteritidis</i>																																							
<i>Gallus gallus</i> (fowl) - unspecified - at farm - animal sample - organ/tissue - Monitoring																																							
Isolates out of a monitoring programme	yes																																						
Number of isolates available in the laboratory	5																																						
			N	5	4	3	2	1	0	5	4	3	2	1	0	5	4	3	2	1	0	5	4	3	2	1	0	5	4	3	2	1	0	5	4	3	2	1	0
Antimicrobials:																																							
Tetracyclines																																							
Amphenicols																																							
Chloramphenicol			5	0																																			
Florfenicol			5	0																																			
Cephalosporins																																							
Cefotaxim(4)			5	0																																			
Fluoroquinolones																																							
Ciprofloxacin(1)			5	0																																			
Enrofloxacin			5	0																																			
Flumequin			3	0																																			
Quinolones																																							
Nalidixic acid			5	0																																			
Trimethoprim																																							
Sulfonamides																																							
Sulfonamide			5	0																																			
Aminoglycosides																																							
Streptomycin			5	0																																			
Gentamicin			5	0																																			
Neomycin(2)			5	0																																			
Kanamycin			5	0																																			
Spectinomycin			5	0																																			
Trimethoprim + sulfonamides(3)			5	0																																			
Penicillins																																							
Amoxicillin			5	0																																			

[illegible]

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - unspecified - at farm - animal sample - faeces - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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Gallus gallus (fowl) - unspecified - at farm - animal sample - faeces - Monitoring																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Isolates out of a monitoring programme	yes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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Number of isolates available in the laboratory																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Antimicrobials:	N																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Tetracyclines	12		0																								2	2	4	3		1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

[illegible]

(1) : four strains 36 mm, one 37 mm, three 38 mm, one 39 mm

(2) : three strains 36 mm

(3) : 30 mm obtained by tablet

(4): one strain 36 mm

(5) : five strains 36 mm, one 37 mm, one 38 mm, one 39 mm, one 40 mm, one 42 mm

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Reptiles - zoo animal - at zoo - Clinical investigations - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																								
S. Enteritidis																																								
Reptiles - zoo animal - at zoo - Clinical investigations																																								
Isolates out of a monitoring programme		no																																						
Number of isolates available in the laboratory		1																																						
		N	n	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35							
Antimicrobials:		1	0																																		1			
Tetracyclines																																								
Amphenicols		1	0																																		1			
Chloramphenicol																																								
Florfenicol		1	0																																		1			
Cephalosporins		1	0																																		1			
Cefotaxim(3)																																								
Fluoroquinolones		1	0																																		1			
Ciprofloxacin(1)																																								
Enrofloxacin(2)		1	0																																		1			
Quinolones		1	0																																		1			
Nalidixic acid																																								
Trimethoprim		1	0																																		1			
Sulfonamides		1	1	1																																				
Sulfonamide																																								
Aminoglycosides		1	1	1																																	1			
Streptomycin																																								
Gentamicin		1	1																																		1			
Neomycin		1	0																																		1			
Kanamycin		1	0																																		1			
Spectinomycin		1	1	1																																	1			
Trimethoprim + sulfonamides		1	0																																		1			
Penicillins		1	0																																		1			
Amoxicillin																																								
Amoxicillin/Clavulanic acid		1	0																																		1			



Table Antimicrobial susceptibility testing of *S. Enteritidis* in Eggs - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																						
S. Enteritidis																																						
Eggs - Monitoring																																						
Isolates out of a monitoring programme		yes																																				
Number of isolates available in the laboratory		1																																				
Antimicrobials:		N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Tetracyclines		1	0																																			
Amphenicols																																						
Chloramphenicol		1	0																																			
Florfenicol		1	0																																			
Cephalosporins																																						
Cefotaxim(3)		1	0																																			
Fluoroquinolones																																						
Ciprofloxacin(1)		1	0																																			
Enrofloxacin(2)		1	0																																			
Quinolones																																						
Nalidixic acid		1	0																																			
Trimethoprim		1	0																																			
Sulfonamides																																						
Sulfonamide		1	0																																			
Aminoglycosides																																						
Streptomycin		1	0																																			
Gentamicin		1	0																																			
Neomycin		1	0																																			
Kanamycin		1	0																																			
Spectinomycin		1	0																																			
Trimethoprim + sulfonamides		1	0																																			
Penicillins																																						
Amoxicillin		1	0																																			
Amoxicillin/Clavulanic acid		1	0																																			
Ampicillin		1	0																																			

(1) : 39 mm
(2) : 36 mm
(3) : 38 mm

Table Antimicrobial susceptibility testing of *S. Enteritidis* in minced meat - Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - intended to be eaten cooked - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																							
S. Enteritidis																																							
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - minced meat - intended to be eaten cooked - Monitoring																																							
Isolates out of a monitoring programme		yes																																					
Number of isolates available in the laboratory		2																																					
Antimicrobials:		N	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Tetracyclines		2	0																										1	1									
Amphenicols																																							
Chloramphenicol		2	0																										2										
Florfenicol		2	0																										2										
Cephalosporins																																							
Cefotaxim(1)		2	0																																				2
Fluoroquinolones																																							
Ciprofloxacin		2	0																																		1		1
Enrofloxacin		2	0																																	2			
Quinolones																																							
Nalidixic acid		2	0																									1	1										
Trimethoprim		2	0																															1	1				
Sulfonamides																																							
Sulfonamide		2	0																									1	1										
Aminoglycosides																																							
Streptomycin		2	0																																				
Gentamicin		2	0																																				
Neomycin		2	0																																				
Kanamycin		2	0																																				
Spectinomycin		2	0																																				
Trimethoprim + sulfonamides		2	0																																			1	1

Penicillins									
Amoxicillin	2	0					1	1	
Amoxicillin/Clavulanic acid	2	0							1
Ampicillin	2	0						2	

(1) : one strain 36 mm, one 38 mm

108

[illegible]



110

[illegible]

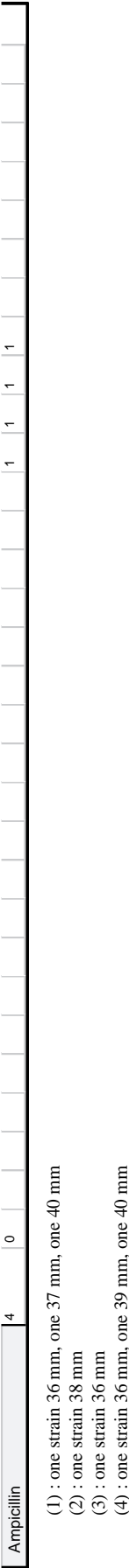


Table Antimicrobial susceptibility testing of S. Enteritidis - qualitative data

n = Number of resistant isolates

S. Enteritidis														
	Meat from broilers (Gallus gallus) - carcass - Monitoring		Meat from turkey - mechanically separated meat (MSM) - Monitoring		Meat from pig - carcass - Monitoring		Meat from rabbit - mechanically separated meat (MSM) - Monitoring		Meat from broilers (Gallus gallus) - offal - liver - Monitoring		Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - minced meat - intended to be eaten cooked - Monitoring		Eggs - Monitoring	
Isolates out of a monitoring programme	yes		yes		yes		yes		yes		yes		yes	
Number of isolates available in the laboratory	1		1		4		1		3		2		1	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Tetracyclines	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Amphenicols														
Chloramphenicol	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Florfenicol	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Cephalosporins														
Cefotaxim	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Fluoroquinolones														
Ciprofloxacin	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Enrofloxacin	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Flumequin(1)	1	0	1	0					2	0	2	0	1	0
Quinolones														
Nalidixic acid	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Trimethoprim	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Sulfonamides														
Sulfonamide	1	0	1	0	4	0	1	0	3	1	2	0	1	0
Aminoglycosides														
Streptomycin	1	0	1	0	4	0	1	0	3	1	2	0	1	0
Gentamicin	1	0	1	0	4	0	1	0	3	1	2	0	1	0
Neomycin	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Kanamycin	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Spectinomycin	1	0	1	0	4	0	1	0	3	1	2	0	1	0
Trimethoprim + sulfonamides	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Penicillins														
Amoxicillin	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Amoxicillin/Clavulanic acid	1	0	1	0	4	0	1	0	3	0	2	0	1	0
Ampicillin	1	0	1	0	4	0	1	0	3	0	2	0	1	0

(1) : Not tested: strains from pigs, one of three strains from broiler liver, strain from rabbit and strain from eggs

113

[illegible]

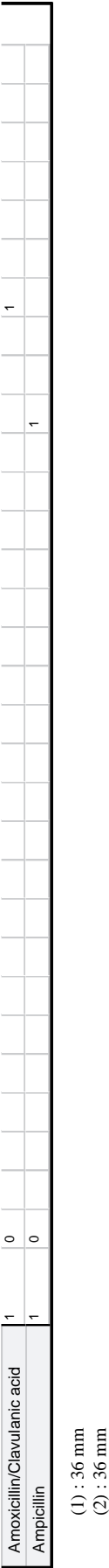


Table Antimicrobial susceptibility testing of *S. Enteritidis* in Meat from turkey - mechanically separated meat (MSM) - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. Enteritidis																																	
Meat from turkey - mechanically separated meat (MSM) - Monitoring																																	
Isolates out of a monitoring programme	yes																																
	1																																
Number of isolates available in the laboratory																																	
Antimicrobials:	N	n	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Tetracyclines	1		0																						1								
Amphenicols	1		0																			1											
Chloramphenicol	1		0																			1											
Florfenicol	1		0																			1											
Cephalosporins	1		0																														1
Cefotaxim	1		0																														
Fluoroquinolones	1		0																														1
Ciprofloxacin	1		0																														
Enrofloxacin	1		0																											1			
Flumequin	1		0																													1	
Quinolones	1		0																								1						
Nalidixic acid	1		0																														
Trimethoprim	1		0																										1				
Sulfonamides	1		0																														
Sulfonamide	1		0																													1	
Aminoglycosides	1		0																														
Streptomycin	1		0																														
Gentamicin	1		0																													1	
Neomycin	1		0																														
Kanamycin	1		0																														
Spectinomycin	1		0																														
Trimethoprim + sulfonamides	1		0																														1
Penicillins	1		0																														
Amoxicillin	1		0																														1

Amoxicillin/Clavulanic acid	1	0	1
Ampicillin	1	0	1

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

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																			
S. Enteritidis																																			
Meat from broilers (Gallus gallus) - offal - liver - Monitoring																																			
Isolates out of a monitoring programme		yes																																	
Number of isolates available in the laboratory		3																																	
Antimicrobials:		N		=	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Tetracyclines		3		0																					1		2								
Amphenicols																																			
Chloramphenicol		3		0																				2			1								
Florfenicol		3		0																				1	1	1									
Cephalosporins																																			
Cefotaxim(3)		3		0																															3
Fluoroquinolones																																			
Ciprofloxacin(1)		3		0																													1	2	
Enrofloxacin(2)		3		0																										1			2		
Flumequin		2		0																										1		1			
Quinolones																																			
Nalidixic acid		3		0																															
Trimethoprim		3		0																										1		1			
Sulfonamides																																			
Sulfonamide		3		1	1																		1												
Aminoglycosides																																			
Streptomycin		3		1	1																														
Gentamicin		3		1					1																										
Neomycin		3		0																															
Kanamycin		3		0																															
Spectinomycin		3		1	1																														
Trimethoprim + sulfonamides		3		0																									1			2			
Penicillins																																			
Amoxicillin		3		0																													1		

[illegible]

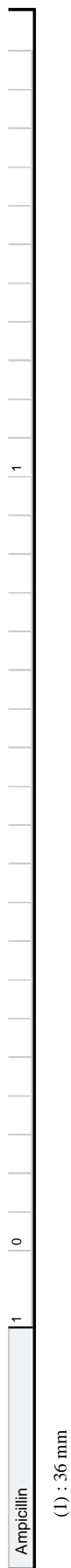
Table Antimicrobial susceptibility testing of S. Enteritidis - qualitative data

n = Number of resistant isolates

S. Enteritidis		
All feedingstuffs - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
3rd generation cephalosporins	1	0
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Flumequin		
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of *S. Enteritidis* in All feedingstuffs - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																		
S. Enteritidis																																		
All feedingstuffs - Monitoring																																		
Isolates out of a monitoring programme	yes																																	
	1		6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35		
Number of isolates available in the laboratory																																		
Antimicrobials:	N	n																							1									
Tetracyclines	1	0																																
Amphenicols																																		
Chloramphenicol	1	0																					1											
Florfenicol																									1									
Cephalosporins																																		
Cefotaxim(1)	1	0																															1	
Fluoroquinolones																																		
Ciprofloxacin	1	0																														1		
Enrofloxacin	1	0																														1		
Quinolones																																		
Nalidixic acid	1	0																																
Trimethoprim	1	0																											1					
Sulfonamides																																		
Sulfonamide	1	0																														1		
Aminoglycosides																																		
Streptomycin	1	0																																
Gentamicin	1	0																																
Neomycin	1	0																																
Kanamycin	1	0																																
Spectinomycin	1	0																																
Trimethoprim + sulfonamides	1	0																														1		
Penicillins																																		
Amoxicillin	1	0																														1		
Amoxicillin/Clavulanic acid	1	0																																

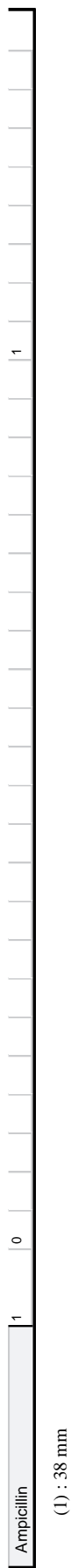


Ampicillin

(1) : 36 mm

122

[illegible]



Ampicillin

(1) : 38 mm

Table Antimicrobial susceptibility testing of S. Haardt - qualitative data

n = Number of resistant isolates		
	S. Haardt	
	Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - Monitoring	
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	1
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Flumequin	1	0
Quinolones		
Nalidixic acid	1	1
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	1
Gentamicin	1	0
Neomycin	1	1
Kanamycin	1	1
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of *S. Havana* in All feedingsuffs - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																					
S. Havana																																					
All feedingstuffs - Monitoring																																					
Isolates out of a monitoring programme	yes																																				
Number of isolates available in the laboratory	2																																				
Antimicrobials:	N																																				
Tetracyclines	2	0																																			
Amphenicols																																					
Chloramphenicol	2	0																																			
Florfenicol	2	0																																			
Cephalosporins																																					
Cefotaxim(3)	2	0																																			
Fluoroquinolones																																					
Ciprofloxacin(1)	2	0																																			
Enrofloxacin(2)	2	0																																			
Flumequin	1	0																																			
Quinolones																																					
Nalidixic acid	2	0																																			
Trimethoprim	2	0																																			
Sulfonamides																																					
Sulfonamide	2	0																																			
Aminoglycosides																																					
Streptomycin	2	0																																			
Gentamicin	2	0																																			
Neomycin	2	0																																			
Kanamycin	2	0																																			
Spectinomycin	2	0																																			
Trimethoprim + sulfonamides	2	0																																			
Penicillins																																					
Amoxicillin	2	0																																			

[illegible]

- (1) : 36 mm and 42 mm
- (2) : one strain 36 mm
- (3) : 38 mm

Table Antimicrobial susceptibility testing of S. Havana - qualitative data

n = Number of resistant isolates

S. Havana		
All feedingstuffs - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	2	
Antimicrobials:	N	n
Tetracyclines	2	0
Amphenicols		
Chloramphenicol	2	0
Florfenicol	2	0
Cephalosporins		
Cefotaxim	2	0
Fluoroquinolones		
Ciprofloxacin	2	0
Enrofloxacin	2	0
Flumequin	1	0
Quinolones		
Nalidixic acid	2	0
Trimethoprim	2	0
Sulfonamides		
Sulfonamide	2	0
Aminoglycosides		
Streptomycin	2	0
Gentamicin	2	0
Neomycin	2	0
Kanamycin	2	0
Spectinomycin	2	0
Trimethoprim + sulfonamides	2	0
Penicillins		
Amoxicillin	2	0
Amoxicillin/Clavulanic acid	2	0
Ampicillin	2	0

Table Antimicrobial susceptibility testing of S. Heidelberg in carcass - Meat from turkey - chilled - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																												
S. Heidelberg																																												
Meat from turkey - carcass - chilled																																												
Isolates out of a monitoring programme	yes																																											
	1																																											
Number of isolates available in the laboratory																																												
Antimicrobials:	N																																											
Tetracyclines	1																																											
Amphenicols																																												
Chloramphenicol	1																																											
Florfenicol	1																																											
Cephalosporins																																												
Cefotaxim(2)	1																																											
Fluoroquinolones																																												
Ciprofloxacin	1																																											
Enrofloxacin	1																																											
Quinolones																																												
Nalidixic acid	1																																											
Trimethoprim	1																																											
Sulfonamides																																												
Sulfonamide	1																																											
Aminoglycosides																																												
Streptomycin	1																																											
Gentamicin	1																																											
Neomycin	1																																											
Kanamycin	1																																											
Spectinomycin	1																																											
Trimethoprim + sulfonamides	1																																											
Penicillins																																												
Amoxicillin	1																																											
Amoxicillin/Clavulanic acid	1																																											



Table Antimicrobial susceptibility testing of S. Heidelberg - qualitative data

n = Number of resistant isolates

S. Heidelberg		
Meat from turkey - carcass - chilled - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	1
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	1
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	1
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	1
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	1

Table Antimicrobial susceptibility testing of S. Indiana - qualitative data

n = Number of resistant isolates

S. Indiana		
All feedingstuffs - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	1
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of *S. Indiana* in All feedingsuffs - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																						
S. Indiana																																						
All feedingsuffs - Monitoring																																						
Isolates out of a monitoring programme		yes																																				
Number of isolates available in the laboratory		1																																				
Antimicrobials:		N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Tetracyclines		1																											1									
Amphenicols																																						
Chloramphenicol	1																												1									
Florfenicol	1																												1									
Cephalosporins																																						
Cefotaxim	1																																					1
Fluoroquinolones																																						
Ciprofloxacin	1																																					1
Enrofloxacin	1																											1										
Quinolones																																						
Nalidixic acid	1																																					
Trimethoprim	1																																					1
Sulfonamides																																						
Sulfonamide	1																											1										
Aminoglycosides																																						
Streptomycin	1																																					
Gentamicin	1																																					1
Neomycin	1																																					
Kanamycin	1																																					
Spectinomycin	1																																					
Trimethoprim + sulfonamides	1																																					1
Penicillins																																						
Amoxicillin	1																																					1
Amoxicillin/Clavulanic acid	1																																					



134

[illegible]

[illegible]

(1) : one strain 38 mm, one 39 mm

(1): one strain 38 mm,
(2): one strain 36 mm

(3) : one strain 36 mm

(4) : one strain 36 mm

Table Antimicrobial susceptibility testing of *S. Infantis* - qualitative data

n = Number of resistant isolates		
	S. Infantis	
	Gallus gallus (fowl) - unspecified - at farm - Monitoring	
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	2	
Antimicrobials:	N	n
Tetracyclines	2	0
Amphenicols		
Chloramphenicol	2	0
Florfenicol	2	0
Cephalosporins		
Cefotaxim	2	0
Fluoroquinolones		
Ciprofloxacin	2	0
Enrofloxacin	2	0
Flumequin	2	0
Quinolones		
Nalidixic acid	2	0
Trimethoprim	2	0
Sulfonamides		
Sulfonamide	2	0
Aminoglycosides		
Streptomycin	2	0
Gentamicin	2	0
Neomycin	2	0
Kanamycin	2	0
Spectinomycin	2	0
Trimethoprim + sulfonamides	2	0
Penicillins		
Amoxicillin	2	0
Amoxicillin/Clavulanic acid	2	0
Ampicillin	2	0

137

[illegible]



Table Antimicrobial susceptibility testing of *S. Infantis* in Meat from pig - meat products - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																				
S. Infantis																																				
Meat from pig - meat products - Monitoring																																				
Isolates out of a monitoring programme		yes																																		
Number of isolates available in the laboratory		2																																		
Antimicrobials:		N	u	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35			
Tetracyclines		2	0																				1	1												
Amphenicols																																				
Chloramphenicol		2	0													1					1															
Florfenicol		2	0															1				1														
Cephalosporins																																				
Cefotaxim		2	0																													1	1			
Fluoroquinolones																																				
Ciprofloxacin(1)		2	0																														2			
Enrofloxacin		2	0																									1						1		
Quinolones																																				
Nalidixic acid		2	0																1																	
Trimethoprim		2	0																							1	1									
Sulfonamides																																				
Sulfonamide		2	0																													1	1			
Aminoglycosides																																				
Streptomycin		2	0																																	
Gentamicin		2	0																													1	1			
Neomycin		2	0																													1	1			
Kanamycin		2	0																													1	1			
Spectinomycin		2	0																													2				
Trimethoprim + sulfonamides		2	0																														2			
Penicillins																																				
Amoxicillin		2	0																													1	1			
Amoxicillin/Clavulanic acid		2	0																														1	1		

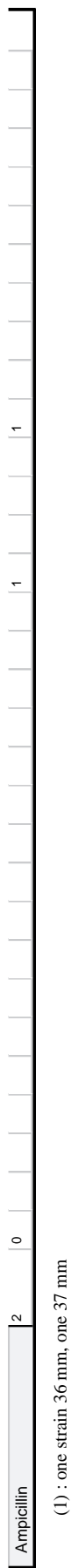


Table Antimicrobial susceptibility testing of *S. Infantis* - qualitative data

n = Number of resistant isolates

	S. Infantis					
	Meat from pig - carcass - Monitoring		Meat from pig - meat products		Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - Monitoring	
Isolates out of a monitoring programme	yes		yes		yes	
Number of isolates available in the laboratory	1		2		1	
Antimicrobials:	N	n	N	n	N	n
Tetracyclines	1	0	2	0	1	0
Amphenicols						
Chloramphenicol	1	0	2	0	1	0
Florfenicol	1	0	2	0	1	0
Cephalosporins						
Cefotaxim	1	0	2	0	1	0
Fluoroquinolones						
Ciprofloxacin	1	0	2	0	1	0
Enrofloxacin	1	0	2	0	1	0
Quinolones						
Nalidixic acid	1	0	2	0	1	0
Trimethoprim	1	0	2	0	1	0
Sulfonamides						
Sulfonamide	1	0	2	0	1	0
Aminoglycosides						
Streptomycin	1	0	2	0	1	0
Gentamicin	1	0	2	0	1	0
Neomycin	1	0	2	0	1	0
Kanamycin	1	0	2	0	1	0
Spectinomycin	1	0	2	0	1	0
Trimethoprim + sulfonamides	1	0	2	0	1	0
Penicillins						
Amoxicillin	1	0	2	0	1	0
Amoxicillin/Clavulanic acid	1	0	2	0	1	0
Ampicillin	1	0	2	0	1	0

Table Antimicrobial susceptibility testing of S. Infantis in Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - minced meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. Infantis																																	
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - minced meat - Monitoring																																	
Isolates out of a monitoring programme		yes																															
Number of isolates available in the laboratory		1																															
Antimicrobials:		N																															
Tetracyclines		1	0																			1											
Amphenicols		1	0																			1											
Chloramphenicol		1	0																			1											
Florfenicol		1	0																			1											
Cephalosporins		1	0																														1
Cefotaxim		1	0																														
Fluoroquinolones		1	0																														1
Ciprofloxacin(1)		1	0																														
Enrofloxacin		1	0																														1
Quinolones		1	0																				1										
Nalidixic acid		1	0																														
Trimethoprim		1	0																							1							
Sulfonamides		1	0																														
Sulfonamide		1	0																														
Aminoglycosides		1	0																														
Streptomycin		1	0																														
Gentamicin		1	0																														
Neomycin		1	0																														
Kanamycin		1	0																														
Spectinomycin		1	0																														
Trimethoprim + sulfonamides		1	0																														1
Penicillins		1	0																														
Amoxicillin		1	0																														1

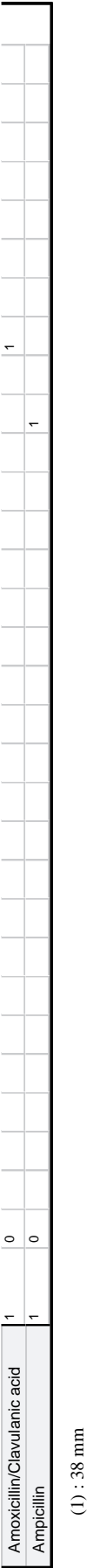


Table Antimicrobial susceptibility testing of *S. Kisii* in All feedingsuffs - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																		
S. Kisii																																		
All feedingsuffs - Monitoring																																		
Isolates out of a monitoring programme	yes																																	
	1																																	
Number of isolates available in the laboratory																																		
Antimicrobials:	N	u	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35		
Tetracyclines	1	0																			1													
Amphenicols																																		
Chloramphenicol	1	0																		1														
Florfenicol	1	0																			1													
Cephalosporins																																		
Cefotaxim(1)	1	0																															1	
Fluoroquinolones																																		
Ciprofloxacin	1	0																															1	
Enrofloxacin	1	0																														1		
Quinolones																																		
Nalidixic acid	1	0																							1									
Trimethoprim	1	0																									1							
Sulfonamides																																		
Sulfonamide	1	0															1																	
Aminoglycosides																																		
Streptomycin	1	0																																
Gentamicin	1	0																		1														
Neomycin	1	0																		1														
Kanamycin	1	0																		1														
Spectinomycin	1	0																		1														
Trimethoprim + sulfonamides	1	0																																
Penicillins																																		
Amoxicillin(2)	1	0																															1	
Amoxicillin/Clavulanic acid	1	0																															1	

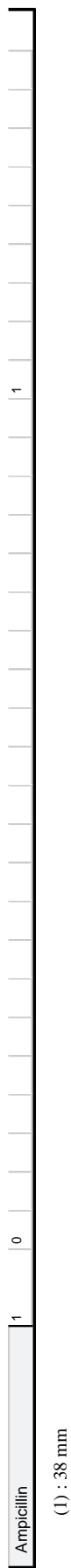


Table Antimicrobial susceptibility testing of S. Kisii - qualitative data

n = Number of resistant isolates		
	S. Kisii	
	All feedingstuffs - Monitoring	
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of S. London in Meat from pig - carcass - Monitoring - quantitative data
[Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																					
S. London																																					
Meat from pig - carcass - Monitoring																																					
Isolates out of a monitoring programme	yes																																				
	1																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	N																																				
Tetracyclines	1																																				
Amphenicols																																					
Chloramphenicol	1																																				
Florfenicol	1																																				
Cephalosporins																																					
Cefotaxim(1)	1																																				
Fluoroquinolones																																					
Ciprofloxacin	1																																				
Enrofloxacin	1																																				
Quinolones																																					
Nalidixic acid	1																																				
Trimethoprim	1																																				
Sulfonamides																																					
Sulfonamide	1																																				
Aminoglycosides																																					
Streptomycin	1																																				
Gentamicin	1																																				
Neomycin	1																																				
Kanamycin	1																																				
Spectinomycin	1																																				
Trimethoprim + sulfonamides	1																																				
Penicillins																																					
Amoxicillin	1																																				
Amoxicillin/Clavulanic acid	1																																				



Ampicillin

(1) : 38 mm

Table Antimicrobial susceptibility testing of S. London - qualitative data

n = Number of resistant isolates

S. London		
Meat from pig - carcass - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

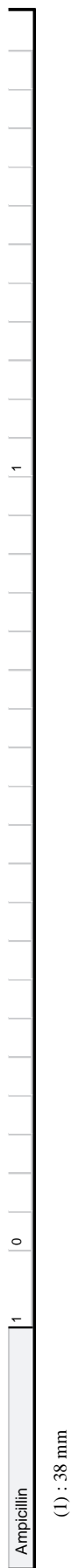
Table Antimicrobial susceptibility testing of S. Mbandaka - qualitative data

n = Number of resistant isolates

S. Mbandaka		
Gallus gallus (fowl) - unspecified - day-old chicks - at farm - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of S. Mbandaka in unspecified - Gallus gallus (fowl) - day-old chicks - at farm - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																							
S. Mbandaka																																							
Gallus gallus (fowl) - unspecified - day-old chicks - at farm - Monitoring																																							
Isolates out of a monitoring programme		yes																																					
Number of isolates available in the laboratory		1																																					
		N	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Antimicrobials:		1	0	1																																			
Tetracyclines		1	0	1																																			
Amphenicols		1	0	1																																			
Chloramphenicol		1	0	1																																			
Florfenicol		1	0	1																																			
Cephalosporins		1	0	1																																			
Cefotaxim		1	0	1																																			
Fluoroquinolones		1	0	1																																			
Ciprofloxacin(1)		1	0	1																																			
Enrofloxacin		1	0	1																																			
Quinolones		1	0	1																																			
Nalidixic acid		1	0	1																																			
Trimethoprim		1	0	1																																			
Sulfonamides		1	0	1																																			
Sulfonamide		1	0	1																																			
Aminoglycosides		1	0	1																																			
Streptomycin		1	0	1																																			
Gentamicin		1	0	1																																			
Neomycin		1	0	1																																			
Kanamycin		1	0	1																																			
Spectinomycin		1	0	1																																			
Trimethoprim + sulfonamides		1	0	1																																			
Penicillins		1	0	1																																			
Amoxicillin		1	0	1																																			
Amoxicillin/Clavulanic acid		1	0	1																																			



Ampicillin

(1) : 38 mm

Table Antimicrobial susceptibility testing of *S. Mbandaka* in All feedingstuffs - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. Mbandaka																																	
All feedingstuffs - Monitoring																																	
Isolates out of a monitoring programme	yes																																
	1																																
Number of isolates available in the laboratory																																	
Antimicrobials:	N	n	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Tetracyclines	1	0																					1										
Amphenicols	1	0																				1											
Chloramphenicol	1	0																				1											
Florfenicol	1	0																															
Cephalosporins	1	0																															1
Cefotaxim(3)	1	0																															
Fluoroquinolones	1	0																															1
Ciprofloxacin(1)	1	0																															
Enrofloxacin(2)	1	0																															1
Quinolones	1	0																					1										
Nalidixic acid	1	0																															
Trimethoprim	1	0																													1		
Sulfonamides	1	0																				1											
Aminoglycosides	1	0																															
Streptomycin	1	0										1																					
Gentamicin	1	0																				1											
Neomycin	1	0																			1												
Kanamycin	1	0																			1												
Spectinomycin	1	0																															
Trimethoprim + sulfonamides	1	0																														1	
Penicillins	1	0																															
Amoxicillin	1	0																															1
Amoxicillin/Clavulanic acid	1	0																															



Table Antimicrobial susceptibility testing of S. Mbandaka - qualitative data

n = Number of resistant isolates

S. Mbandaka		
All feedingstuffs - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
3rd generation cephalosporins	1	0
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of *S. Meleagridis* - qualitative data

n = Number of resistant isolates		
	S. Meleagridis	
	Gallus gallus (fowl) - unspecified - at farm - Monitoring	
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Flumequin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of *S. Meleagridis* in Gallus gallus (fowl) - unspecified - at farm - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																						
S. Meleagridis																																						
Gallus gallus (fowl) - unspecified - at farm - Monitoring																																						
Isolates out of a monitoring programme	yes																																					
	1																																					
Number of isolates available in the laboratory	1																																					
Antimicrobials:	N																																					
Tetracyclines	1																																					
Amphenicols	1																																					
Chloramphenicol	1																																					
Florfenicol	1																																					
Cephalosporins	1																																					
Cefotaxim(3)	1																																					
Fluoroquinolones	1																																					
Ciprofloxacin(1)	1																																					
Enrofloxacin(2)	1																																					
Flumequin	1																																					
Quinolones	1																																					
Nalidixic acid	1																																					
Trimethoprim	1																																					
Sulfonamides	1																																					
Sulfonamide	1																																					
Aminoglycosides	1																																					
Streptomycin	1																																					
Gentamicin	1																																					
Neomycin	1																																					
Kanamycin	1																																					
Spectinomycin	1																																					
Trimethoprim + sulfonamides	1																																					
Penicillins	1																																					
Amoxicillin	1																																					

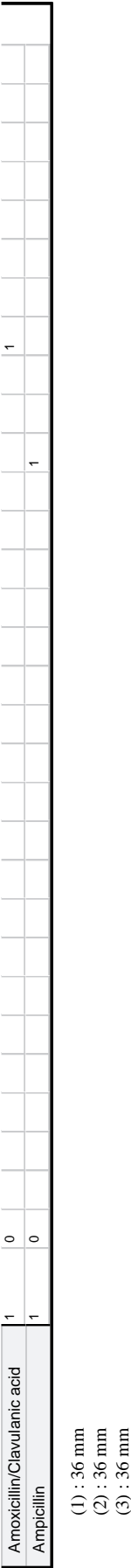


Table Antimicrobial susceptibility testing of *S. Newport* in Snakes - at zoo - Surveillance - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. Newport																																	
Snakes - at zoo - Surveillance																																	
Isolates out of a monitoring programme	no																																
	1																																
Number of isolates available in the laboratory																																	
Antimicrobials:	N																																
Tetracyclines	1																																
Amphenicols																																	
Chloramphenicol	1	0																															
Florfenicol																																	
Cephalosporins																																	
Cefotaxim(3)	1	0																															
Fluoroquinolones																																	
Ciprofloxacin(1)	1	0																															
Enrofloxacin	1	0																															
Flumequin	1	0																															
Quinolones																																	
Nalidixic acid	1	0																															
Trimethoprim(2)	1	0																															
Sulfonamides																																	
Sulfonamide	1	0																															
Aminoglycosides																																	
Streptomycin	1	0																															
Gentamicin	1	0																															
Neomycin	1	0																															
Kanamycin	1	0																															
Spectinomycin	1	0																															
Trimethoprim + sulfonamides	1	0																															
Penicillins																																	
Amoxicillin	1	0																															

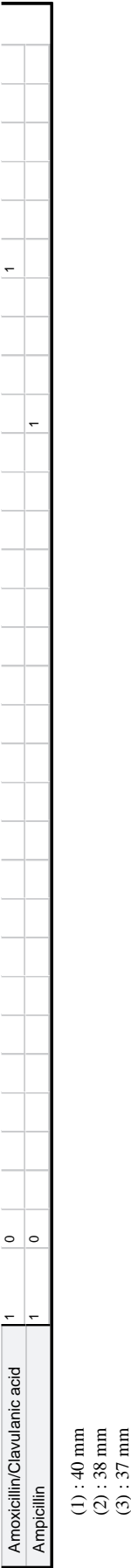


Table Antimicrobial susceptibility testing of S. Newport - qualitative data

n = Number of resistant isolates		
	S. Newport	
	Snakes - at zoo - Surveillance	
Isolates out of a monitoring programme	no	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Flumequin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of S. Saintpaul in Turkeys - unspecified - at farm - environmental sample - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																		
S. Saintpaul																																		
Turkeys - unspecified - at farm - environmental sample - Monitoring																																		
Isolates out of a monitoring programme	yes																																	
		2																																
Number of isolates available in the laboratory																																		
Antimicrobials:		N	u	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Amphenicols																																		
Chloramphenicol		2	0																				2											
Florfenicol		2	0																				1	1										
Cephalosporins																																		
Cefotaxim(3)		2	0																															
Fluoroquinolones																																		
Ciprofloxacin(1)		2	0																															
Enrofloxacin(2)		2	0																															
Quinolones																																		
Nalidixic acid		2	0																															
Trimethoprim		2	0																													1	1	
Sulfonamides																																		
Sulfonamide		2	2	2																														
Aminoglycosides																																		
Streptomycin		2	2	2																														
Gentamicin		2	0																				1	1										
Neomycin		2	0																															
Kanamycin		2	0																				1	1										
Spectinomycin		2	2	2																														
Trimethoprim + sulfonamides		2	0																													1	1	
Penicillins																																		
Amoxicillin		2	0																												1	1		
Amoxicillin/Clavulanic acid		2	0																													2		
Ampicillin		2	0																												1	1		
Tetracyclines																																		



Table Antimicrobial susceptibility testing of S. Saintpaul - qualitative data

n = Number of resistant isolates

S. Saintpaul		
Turkeys - at farm - environmental sample - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	2	
Antimicrobials:	N	n
Tetracyclines	2	2
Amphenicols		
Chloramphenicol	2	0
Florfenicol	2	0
Cephalosporins		
Cefotaxim	2	0
Fluoroquinolones		
Ciprofloxacin	2	0
Enrofloxacin	2	0
Quinolones		
Nalidixic acid	2	0
Trimethoprim	2	0
Sulfonamides		
Sulfonamide	2	2
Aminoglycosides		
Streptomycin	2	2
Gentamicin	2	0
Neomycin	2	0
Kanamycin	2	0
Spectinomycin	2	2
Trimethoprim + sulfonamides	2	0
Penicillins		
Amoxicillin	2	0
Amoxicillin/Clavulanic acid	2	0
Ampicillin	2	0

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[illegible]

Amoxicillin/Clavulanic acid	1	0	1
Ampicillin	1	0	1

Table Antimicrobial susceptibility testing of S. Saintpaul - qualitative data

n = Number of resistant isolates

		S. Saintpaul		
	Meat from turkey - mechanically separated meat (MSM) - Monitoring		Meat from pig - offal - Monitoring	
Isolates out of a monitoring programme	yes		yes	
Number of isolates available in the laboratory	1		1	
Antimicrobials:	N	n	N	n
Tetracyclines	1	1	1	1
Amphenicols				
Chloramphenicol	1	0	1	0
Florfenicol	1	0	1	0
Cephalosporins				
Cefotaxim	1	0	1	0
Fluoroquinolones				
Ciprofloxacin	1	0	1	0
Enrofloxacin	1	0	1	0
Flumequin(1)	1	0		
Quinolones				
Nalidixic acid	1	0	1	0
Trimethoprim	1	0	1	0
Sulfonamides				
Sulfonamide	1	1	1	1
Aminoglycosides				
Streptomycin	1	1	1	1
Gentamicin	1	0	1	0
Neomycin	1	0	1	0
Kanamycin	1	0	1	0
Spectinomycin	1	1	1	1
Trimethoprim + sulfonamides	1	0	1	0
Penicillins				
Amoxicillin	1	0	1	0
Amoxicillin/Clavulanic acid	1	0	1	0
Ampicillin	1	0	1	0

(1) : Strain from pig offal not tested

Table Antimicrobial susceptibility testing of S. Saintpaul in Meat from pig - offal - Monitoring - quantitative data
[Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																												
S. Saintpaul																																												
Meat from pig - offal - Monitoring																																												
Isolates out of a monitoring programme	yes																																											
	1																																											
Number of isolates available in the laboratory																																												
Antimicrobials:	N																																											
Tetracyclines	1																																											
Amphenicols	1																																											
Chloramphenicol	1																																											
Florfenicol	1																																											
Cephalosporins	1																																											
Cefotaxim(3)	1																																											
Fluoroquinolones	1																																											
Ciprofloxacin(1)	1																																											
Enrofloxacin(2)	1																																											
Quinolones	1																																											
Nalidixic acid	1																																											
Trimethoprim	1																																											
Sulfonamides	1																																											
Sulfonamide	1																																											
Aminoglycosides	1																																											
Streptomycin	1																																											
Gentamicin	1																																											
Neomycin	1																																											
Kanamycin	1																																											
Spectinomycin	1																																											
Trimethoprim + sulfonamides	1																																											
Penicillins	1																																											
Amoxicillin	1																																											
Amoxicillin/Clavulanic acid	1																																											



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Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to		
S. Sandiego		
Turkeys - unspecified - at farm - animal sample - faeces - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35
Amphenicols		
Chloramphenicol	1	0 1
Florfenicol	1	0 1
Cephalosporins		
Cefotaxim(1)	1	0 1
Fluoroquinolones		
Ciprofloxacin	1	0 1
Enrofloxacin	1	0 1
Quinolones		
Nalidixic acid	1	0 1
Trimethoprim	1	0 1
Sulfonamides		
Sulfonamide	1	1 6
Aminoglycosides		
Streptomycin	1	0 6
Gentamicin	1	0 1
Neomycin	1	0 1
Kanamycin	1	0 1
Spectinomycin	1	1 6
Trimethoprim + sulfonamides	1	1 6
Penicillins		
Amoxicillin	1	0 1
Amoxicillin/Clavulanic acid	1	0 1
Ampicillin	1	0 1
Tetracyclines		

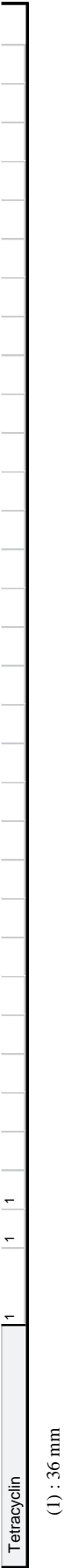


Table Antimicrobial susceptibility testing of S. Sandiego in Turkeys - unspecified - at farm - environmental sample - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																		
S. Sandiego																																		
Turkeys - unspecified - at farm - environmental sample - Monitoring																																		
Isolates out of a monitoring programme	yes																																	
	2																																	
Number of isolates available in the laboratory	2																																	
Antimicrobials:	N																																	
Amphenicols																																		
Chloramphenicol	2	0																			1	1												
Florfenicol	2	0																			1	1												
Cephalosporins																																		
Cefotaxim(3)	2	0																															2	
Fluoroquinolones																																		
Ciprofloxacin(1)	2	0																															2	
Enrofloxacin(2)	2	0																															2	
Flumequin	1	0																														1		
Quinolones																																		
Nalidixic acid	2	0																			1	1												
Trimethoprim	2	1	1																													1		
Sulfonamides																																		
Sulfonamide	2	2	2																															
Aminoglycosides																																		
Streptomycin	2	2	2																															
Gentamicin	2	0																				1			1									
Neomycin	2	0																			1	1												
Kanamycin	2	0																					1											
Spectinomycin	2	2	2																															
Trimethoprim + sulfonamides	2	0																							1									
Penicillins																																		
Amoxicillin	2	0																							1									
Amoxicillin/Clavulanic acid	2	0																								1							1	
Ampicillin	2	0																									1							

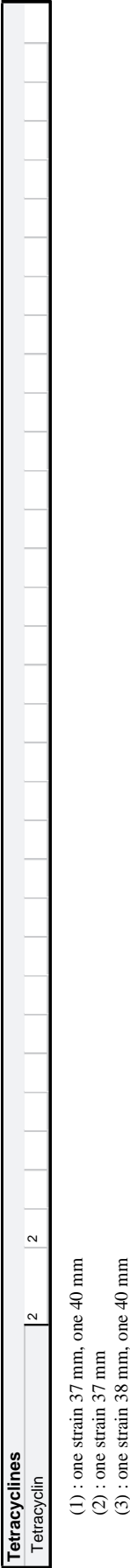


Table Antimicrobial susceptibility testing of S. Sandiego - qualitative data

n = Number of resistant isolates

	S. Sandiego			
	Turkeys - at farm - animal sample - faeces - Monitoring		Turkeys - at farm - environmental sample - Monitoring	
Isolates out of a monitoring programme	yes		yes	
Number of isolates available in the laboratory	1		2	
Antimicrobials:	N	n	N	n
Tetracyclines	1	1	2	2
Amphenicols				
Chloramphenicol	1	0	2	0
Florfenicol	1	0	2	0
Cephalosporins				
Cefotaxim	1	0	2	0
Fluoroquinolones				
Ciprofloxacin	1	0	2	0
Enrofloxacin	1	0	2	0
Flumequin			1	0
Quinolones				
Nalidixic acid	1	0	2	0
Trimethoprim	1	0	2	1
Sulfonamides				
Sulfonamide	1	1	2	2
Aminoglycosides				
Streptomycin	1	1	2	1
Gentamicin	1	0	2	0
Neomycin	1	0	2	0
Kanamycin	1	0	2	0
Spectinomycin	1	1	2	2
Trimethoprim + sulfonamides	1	1	2	0
Penicillins				
Amoxicillin	1	0	2	0
Amoxicillin/Clavulanic acid	1	0	2	0
Ampicillin	1	0	2	0

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - unspecified - at farm - animal sample - organ/tissue - Clinical investigations - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																													
S. Senftenberg																													
Gallus gallus (fowl) - unspecified - at farm - animal sample - organ/tissue - Clinical investigations																													
Isolates out of a monitoring programme	no																												
Number of isolates available in the laboratory	1																												
		N	8	7	6	5	4	3	2	1	0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13
Antimicrobials:																													
Amphenicols																													
Chloramphenicol	1	0															1												
Florfenicol	1	0															1												
Cephalosporins																													
Cefotaxim(3)	1	0																											
Fluoroquinolones																													
Ciprofloxacin(1)	1	0																											
Enrofloxacin(2)	1	0																											
Quinolones																													
Nalidixic acid	1	0																											
Trimethoprim	1	0																											
Sulfonamides																													
Sulfonamide	1	0																											
Aminoglycosides																													
Streptomycin	1	1																											
Gentamicin	1	0																											
Neomycin	1	0																											
Kanamycin	1	0																											
Spectinomycin	1	0																											
Trimethoprim + sulfonamides	1	0																											
Penicillins																													
Amoxicillin	1	0																											
Amoxicillin/Clavulanic acid	1	0																											
Ampicillin	1	0																											
Tetracyclines																													



Table Antimicrobial susceptibility testing of S. Senftenberg - qualitative data

n = Number of resistant isolates

	S. Senftenberg			
	Gallus gallus (fowl) - unspecified - at farm - animal sample - organ/tissue - Clinical investigations		Gallus gallus (fowl) - unspecified - at farm - animal sample - faeces	
Isolates out of a monitoring programme	no		no	
Number of isolates available in the laboratory	1		1	
Antimicrobials:	N	n	N	n
Tetracyclines	1	0	1	0
Amphenicols				
Chloramphenicol	1	0	1	0
Florfenicol	1	0	1	0
Cephalosporins				
Cefotaxim	1	0	1	0
Fluoroquinolones				
Ciprofloxacin	1	0	1	0
Enrofloxacin	1	0	1	0
Flumequin			1	0
Quinolones				
Nalidixic acid	1	0	1	0
Trimethoprim	1	0	1	0
Sulfonamides				
Sulfonamide	1	0	1	0
Aminoglycosides				
Streptomycin	1	1	1	0
Gentamicin	1	0	1	0
Neomycin	1	0	1	0
Kanamycin	1	0	1	0
Spectinomycin	1	0	1	0
Trimethoprim + sulfonamides	1	0	1	0
Penicillins				
Amoxicillin	1	0	1	0
Amoxicillin/Clavulanic acid	1	0	1	0
Ampicillin	1	0	1	0

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - unspecified - at farm - animal sample - faeces - Clinical investigations - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																			
S. Senftenberg																																			
Gallus gallus (fowl) - unspecified - at farm - animal sample - faeces - Clinical investigations																																			
Isolates out of a monitoring programme		no																																	
Number of isolates available in the laboratory		1																																	
Antimicrobials:			N	u	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Amphenicols																						1													
	Chloramphenicol	1	0																																
	Florfenicol	1	0																				1												
Cephalosporins																																			
	Cefotaxim	1	0																																1
Fluoroquinolones																																			
	Ciprofloxacin(1)	1	0																																1
	Enrofloxacin	1	0																													1			
	Flumequin	1	0																													1			
Quinolones																						1													
	Nalidixic acid	1	0																																
Trimethoprim																																			
	Trimethoprim	1	0																																
Sulfonamides																																			
	Sulfonamide	1	0																			1													
Aminoglycosides																																			
	Streptomycin	1	0																																
	Gentamicin	1	0																																
	Neomycin	1	0																																
	Kanamycin	1	0																																
	Spectinomycin	1	0																																
	Spectinomycin	1	0																																
	Spectinomycin	1	0																																
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	Spectinomycin	1	0																																
	Spectinomycin	1	0																																
	Spectinomycin	1	0																																

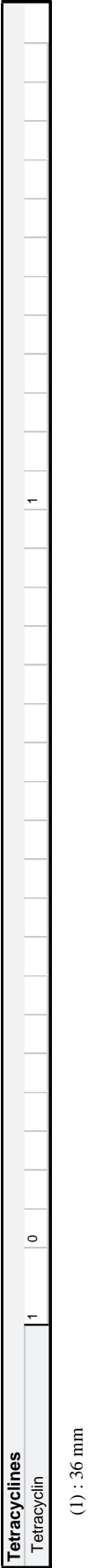


Table Antimicrobial susceptibility testing of *S. Senftenberg* in Meat from pig - meat products - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																					
S. Senftenberg																																					
Meat from pig - meat products - Monitoring																																					
Isolates out of a monitoring programme		yes																																			
Number of isolates available in the laboratory		1																																			
		N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Antimicrobials:		1	0																																		
Tetracyclines		1	0																																		
Amphenicols		1	0																																		
Chloramphenicol		1	0																																		
Florfenicol		1	0																																		
Cephalosporins		1	0																																		
Cefotaxim(3)		1	0																																		
Fluoroquinolones		1	0																																		
Ciprofloxacin(1)		1	0																																		
Enrofloxacin(2)		1	1																																		
Quinolones		1	0																																		
Nalidixic acid		1	0																																		
Trimethoprim		1	0																																		
Sulfonamides		1	0																																		
Sulfonamide		1	0																																		
Aminoglycosides		1	0																																		
Streptomycin		1	0																																		
Gentamicin		1	0																																		
Neomycin		1	0																																		
Kanamycin		1	0																																		
Spectinomycin		1	0																																		
Trimethoprim + sulfonamides		1	0																																		
Penicillins		1	0																																		
Amoxicillin		1	0																																		
Amoxicillin/Clavulanic acid		1	0																																		



Table Antimicrobial susceptibility testing of S. Senftenberg - qualitative data

n = Number of resistant isolates

S. Senftenberg		
Meat from pig - meat products - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	1
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of S. Senftenberg - qualitative data

n = Number of resistant isolates

S. Senftenberg		
All feedingstuffs - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	2	
Antimicrobials:	N	n
Tetracyclines	2	0
Amphenicols		
Chloramphenicol	2	0
Florfenicol	2	0
Cephalosporins		
Cefotaxim	2	0
Fluoroquinolones		
Ciprofloxacin	2	0
Enrofloxacin	2	0
Quinolones		
Nalidixic acid	2	0
Trimethoprim	2	0
Sulfonamides		
Sulfonamide	2	0
Aminoglycosides		
Streptomycin	2	0
Gentamicin	2	0
Neomycin	2	0
Kanamycin	2	0
Spectinomycin	2	0
Trimethoprim + sulfonamides	2	0
Penicillins		
Amoxicillin	2	0
Amoxicillin/Clavulanic acid	2	0
Ampicillin	2	0

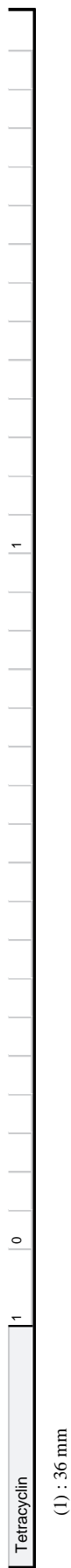
Table Antimicrobial susceptibility testing of S. Senftenberg in All feedings stuffs - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. Senftenberg																																	
All feedings stuffs - Monitoring																																	
Isolates out of a monitoring programme	yes																																
Number of isolates available in the laboratory	2																																
Antimicrobials:	N																																
Tetracyclines	2	0												1																			
Amphenicols																																	
Chloramphenicol	2	0												1	1																		
Florfenicol	2	0																															
Cephalosporins																																	
Cefotaxim(2)	2	0																															
Fluoroquinolones																																	
Ciprofloxacin(1)	2	0																															
Enrofloxacin	2	0																															
Quinolones																																	
Nalidixic acid	2	0																															
Trimethoprim	2	0																															
Sulfonamides																																	
Sulfonamide	2	0																															
Aminoglycosides																																	
Streptomycin	2	0																															
Gentamicin	2	0																															
Neomycin	2	0																															
Kanamycin	2	0																															
Spectinomycin	2	0																															
Trimethoprim + sulfonamides	2	0																															
Penicillins																																	
Amoxicillin	2	0																															
Amoxicillin/Clavulanic acid	2	0																															



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Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to		
S. Stanleyville		
Cattle (bovine animals) - unspecified - at farm - animal sample - faeces - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	29 30 31 32 33 34 35
Amphenicols		
Chloramphenicol	1	1
Florfenicol	1	1
Cephalosporins		
Cefotaxim(1)	1	1
Fluoroquinolones		
Ciprofloxacin	1	1
Enrofloxacin	1	1
Quinolones		
Nalidixic acid	1	1
Trimethoprim	1	1
Sulfonamides		
Sulfonamide	1	1
Aminoglycosides		
Streptomycin	1	1
Gentamicin	1	1
Neomycin	1	1
Kanamycin	1	1
Spectinomycin	1	1
Trimethoprim + sulfonamides	1	1
Penicillins		
Amoxicillin	1	1
Amoxicillin/Clavulanic acid	1	1
Ampicillin	1	1
Tetracyclines		



Tetracyclin

(1) : 36 mm

Table Antimicrobial susceptibility testing of S. Stanleyville - qualitative data

n = Number of resistant isolates

S. Stanleyville		
Cattle (bovine animals) - unspecified - at farm - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of S. Tennessee in Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																						
S. Tennessee																																						
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - Monitoring																																						
Isolates out of a monitoring programme		yes																																				
Number of isolates available in the laboratory		1																																				
		N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Antimicrobials:		1	0																						1													
Tetracyclines		1	0																																			
Amphenicols		1	0																						1													
Chloramphenicol		1	0																																			
Florfenicol		1	0																							1												
Cephalosporins		1	0																																			
Cefotaxim(2)		1	0																																			1
Fluoroquinolones		1	0																																			
Ciprofloxacin(1)		1	0																																			1
Enrofloxacin		1	0																																			1
Quinolones		1	0																								1											
Nalidixic acid		1	0																																			
Trimethoprim		1	0																																			
Sulfonamides		1	0																																			
Sulfonamide		1	0																																			
Aminoglycosides		1	0																																			
Streptomycin		1	0																																			
Gentamicin		1	0																								1											
Neomycin		1	0																																			
Kanamycin		1	0																																			
Spectinomycin		1	0																																			
Trimethoprim + sulfonamides		1	0																																			1
Penicillins		1	0																																			
Amoxicillin		1	0																																			
Amoxicillin/Clavulanic acid		1	0																																			1

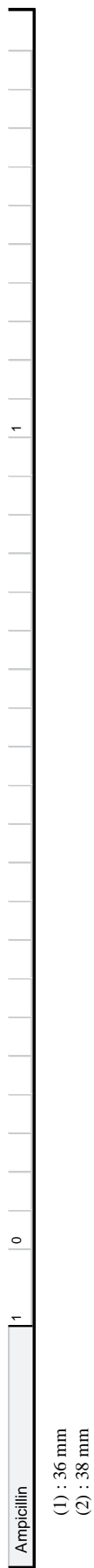


Table Antimicrobial susceptibility testing of S. Tennessee - qualitative data

n = Number of resistant isolates

S. Tennessee		
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	0
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of *S. Tennessee* in All feedings stuffs - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. Tennessee																																	
All feedingstuffs																																	
Isolates out of a monitoring programme		yes																															
Number of isolates available in the laboratory		3																															
Antimicrobials:		N																															
Tetracyclines		3																															
Amphenicols																																	
Chloramphenicol		3	0																														
Florfenicol		3	0																														
Cephalosporins																																	
Cefotaxim(3)		3	0																														
Fluoroquinolones																																	
Ciprofloxacin(1)		3	0																														
Enrofloxacin(2)		3	0																														
Flumequin		3	0																														
Quinolones																																	
Nalidixic acid		3	0																														
Trimethoprim		3	0																														
Sulfonamides																																	
Sulfonamide		3	0																														
Aminoglycosides																																	
Streptomycin		3	1																														
Gentamicin		3	0																														
Neomycin		3	0																														
Kanamycin		3	0																														
Spectinomycin		3	0																														
Trimethoprim + sulfonamides		3	0																														
Penicillins																																	
Amoxicillin		3	0																														
Amoxicillin/Clavulanic acid		3	0																														
Ampicillin		3	0																														

(1) : two strains 36 mm
(2) : one strain 36 mm
(3) : one strain 38 mm

Table Antimicrobial susceptibility testing of S. Tennessee - qualitative data

n = Number of resistant isolates

S. Tennessee		
All feedingstuffs - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	3	
Antimicrobials:	N	n
Tetracyclines	3	0
Amphenicols		
Chloramphenicol	3	0
Florfenicol	3	0
Cephalosporins		
Cefotaxim	3	0
Fluoroquinolones		
Ciprofloxacin	3	0
Enrofloxacin	3	0
Flumequin	2	0
Quinolones		
Nalidixic acid	3	0
Trimethoprim	3	0
Sulfonamides		
Sulfonamide	3	0
Aminoglycosides		
Streptomycin	3	1
Gentamicin	3	0
Neomycin	3	0
Kanamycin	3	0
Spectinomycin	3	0
Trimethoprim + sulfonamides	3	0
Penicillins		
Amoxicillin	3	0
Amoxicillin/Clavulanic acid	3	0
Ampicillin	3	0

Table Antimicrobial susceptibility testing of *S. Typhimurium* in *Gallus gallus* (fowl) - unspecified - at farm - animal sample - organ/tissue - Clinical investigations - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																													
<i>S. Typhimurium</i>																													
<i>Gallus gallus</i> (fowl) - unspecified - at farm - animal sample - organ/tissue - Clinical investigations																													
Isolates out of a monitoring programme	no																												
Number of isolates available in the laboratory	1																												
		N	8	7	6	5	4	3	2	1	0	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7
Antimicrobials:																													
Amphenicols																													
Chloramphenicol	1	0																											
Florfenicol	1	0																											
Cephalosporins																													
Cefotaxim(6)	1	0																											
Fluoroquinolones																													
Ciprofloxacin(1)	1	0																											
Enrofloxacin(2)	1	0																											
Flumequin	1	0																											
Quinolones																													
Nalidixic acid	1	0																											
Trimethoprim(3)	1	0																											
Sulfonamides																													
Sulfonamide (4)	1	0																											
Aminoglycosides																													
Streptomycin	1	0																											
Gentamicin	1	0																											
Neomycin	1	0																											
Kanamycin	1	0																											
Spectinomycin	1	0																											
Trimethoprim + sulfonamides(5)	1	0																											
Penicillins																													
Amoxicillin	1	0																											
Amoxicillin/Clavulanic acid	1	0																											
Ampicillin	1	0																											

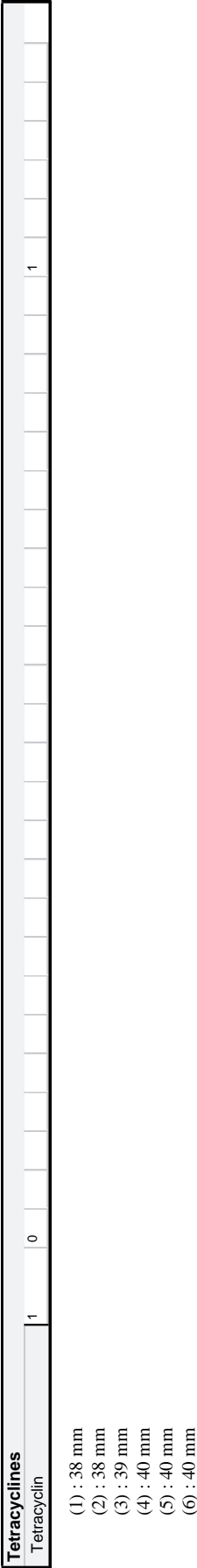


Table Antimicrobial susceptibility testing of S.Typhimurium in animals

n = Number of resistant isolates

	S. Typhimurium							
	Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Turkeys	
Isolates out of a monitoring programme	no				yes			
Number of isolates available in the laboratory	1		0		1		0	
Antimicrobials:	N	n	N	n	N	n	N	n
Tetracyclines	1	1			1	0		
Amphenicols								
Chloramphenicol	1	1			1	0		
Florfenicol	1	1			1	0		
Cephalosporins								
Cefotaxim	1	0			1	0		
Fluoroquinolones								
Ciprofloxacin	1	0			1	0		
Enrofloxacin	1	0			1	0		
Flumequin	0	0			1	0		
Quinolones								
Nalidixic acid	1	1			1	0		
Trimethoprim	1	0			1	0		
Sulfonamides								
Sulfonamide (2)	1	1			1	0		
Aminoglycosides								
Streptomycin	1	1			1	0		
Gentamicin	1	0			1	0		
Neomycin	1	0			1	0		
Kanamycin	1	0			1	0		
Spectinomycin	1	1			1	0		
Trimethoprim + sulfonamides	1	0			1	0		
Penicillins								
Amoxicillin	1	1			1	0		
Amoxicillin/Clavulanic acid	1	0			1	0		
Ampicillin	1	1			1	0		
Fully sensitive	0				1			
Resistant to >4 antimicrobials	1	1						

(1) : cefotaxime

(2) : 3 S

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Cattle (bovine animals) - unspecified - at farm - animal sample - organ/tissue - Clinical investigations - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. Typhimurium																																	
Cattle (bovine animals) - unspecified - at farm - animal sample - organ/tissue - Clinical investigations																																	
Isolates out of a monitoring programme	no																																
		1																															
Number of isolates available in the laboratory	1																																
Antimicrobials:		N	n	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Amphenicols		1	1	1																													
Chloramphenicol	1	1	1																														
Florfenicol	1	1	1																														
Cephalosporins		1	0																														
Cefotaxim(1)	1	0																															
Fluoroquinolones		1	0																														
Ciprofloxacin	1	0																															
Enrofloxacin	1	0																															
Quinolones		1	1	1																													
Nalidixic acid	1	1	1																														
Trimethoprim	1	0																															
Sulfonamides		1	1	1																													
Sulfonamide	1	1	1																														
Aminoglycosides		1	1	1																													
Streptomycin	1	1	1																														
Gentamicin	1	0																															
Neomycin	1	0																															
Kanamycin	1	0																															
Spectinomycin	1	1	1																														
Trimethoprim + sulfonamides	1	0																															
Penicillins		1	1	1																													
Amoxicillin	1	0																															
Amoxicillin/Clavulanic acid	1	0																															
Ampicillin	1	1	1																														
Tetracyclines		1	1	1																													

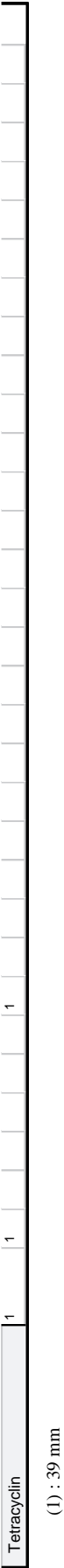


Table Antimicrobial susceptibility testing of S. Typhimurium in offal - Meat from turkey - liver - quantitative data
[Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. Typhimurium																																	
Meat from turkey - offal - liver																																	
Isolates out of a monitoring programme	yes																																
Number of isolates available in the laboratory	1																																
Antimicrobials:	N	1																															
Tetracyclines		1	1																														
Amphenicols																																	
Chloramphenicol		1	1	1																													
Florfenicol		1	1					1																									
Cephalosporins																																	
Cefotaxim(1)		1	0																														1
Fluoroquinolones																																	
Ciprofloxacin		1	0																														1
Enrofloxacin		1	0																														
Flumequin		1	1											1																			
Quinolones																																	
Nalidixic acid		1	1	1																													
Trimethoprim		1	0																														1
Sulfonamides																																	
Sulfonamide		1	1	1																													
Aminoglycosides																																	
Streptomycin		1	1	1																													
Gentamicin		1	0																														1
Neomycin		1	0																														1
Kanamycin		1	0																														
Spectinomycin		1	1	1																													
Trimethoprim + sulfonamides		1	0																														1
Penicillins																																	
Amoxicillin		1	1	1																													

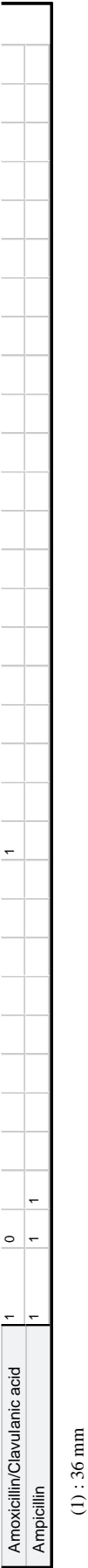


Table Antimicrobial susceptibility testing of *S. Typhimurium* in Meat from pig - meat products - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration ($\mu\text{l/ml}$) or zone (mm) of inhibition equal to		35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	N
S. Typhimurium																																	
Meat from pig - meat products - Monitoring																																	
Isolates out of a monitoring programme	yes																																
Number of isolates available in the laboratory	1																																
Antimicrobials:		1	0									1																					
Tetracyclines		1	0																														
Amphenicols		1	0									1																					
Chloramphenicol		1	0									1																					
Florfenicol		1	0									1																					
Cephalosporins		1	0																														1
Cefotaxim(3)		1	0																														
Fluoroquinolones		1	0																														1
Ciprofloxacin(1)		1	0																														
Enrofloxacin(2)		1	0																														1
Quinolones		1	0																														
Nalidixic acid		1	0																														1
Trimethoprim		1	0																														1
Sulfonamides		1	0																														
Sulfonamide		1	0													1																	
Aminoglycosides		1	0																														
Streptomycin		1	0																														
Gentamicin		1	0																														1
Neomycin		1	0																														1
Kanamycin		1	0																														1
Spectinomycin		1	0																														
Trimethoprim + sulfonamides		1	0																														1
Penicillins		1	0																														
Amoxicillin		1	0																														1
Amoxicillin/Clavulanic acid		1	0																														1



Table Antimicrobial susceptibility testing of *S. Typhimurium* in Meat from pig - minced meat - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																							
S. Typhimurium																																							
Meat from pig - minced meat - Monitoring																																							
Isolates out of a monitoring programme		yes																																					
Number of isolates available in the laboratory		1																																					
Antimicrobials:		N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35		
Tetracyclines		1	1											1																									
Amphenicols		1	0																																				
Chloramphenicol		1	0																																				
Florfenicol		1	0																																				
Cephalosporins		1	0																																				
Cefotaxim(1)		1	0																																				
Fluoroquinolones		1	0																																				
Ciprofloxacin		1	0																																				
Enrofloxacin		1	0																																				
Quinolones		1	1	1																																			
Nalidixic acid		1	1	1																																			
Trimethoprim		1	0																																				
Sulfonamides		1	1	1																																			
Sulfonamide		1	1	1																																			
Aminoglycosides		1	0																																				
Streptomycin		1	0																																				
Gentamicin		1	0																																				
Neomycin		1	0																																				
Kanamycin		1	0																																				
Spectinomycin		1	0																																				
Trimethoprim + sulfonamides		1	0																																				
Penicillins		1	1	1																																			
Amoxicillin		1	1	1																																			
Amoxicillin/Clavulanic acid		1	0																																				

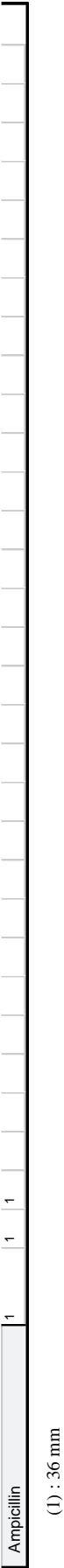
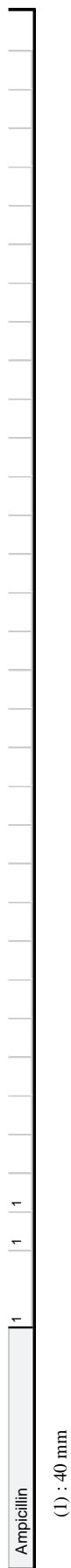


Table Antimicrobial susceptibility testing of *S. Typhimurium* in meat products - Meat from broilers (*Gallus gallus*) - raw but intended to be eaten cooked - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																							
S. Typhimurium																																							
Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - Monitoring																																							
Isolates out of a monitoring programme	yes																																						
Number of isolates available in the laboratory	1																																						
Antimicrobials:	N																																						
Tetracyclines	1																																						
Amphenicols																																							
Chloramphenicol	1																																						
Florfenicol	1																																						
Cephalosporins																																							
Cefotaxim(1)	1																																						
Fluoroquinolones																																							
Ciprofloxacin	1																																						
Enrofloxacin	1																																						
Quinolones																																							
Nalidixic acid	1																																						
Trimethoprim	1																																						
Sulfonamides																																							
Sulfonamide	1																																						
Aminoglycosides																																							
Streptomycin	1																																						
Gentamicin	1																																						
Neomycin	1																																						
Kanamycin	1																																						
Spectinomycin	1																																						
Trimethoprim + sulfonamides	1																																						
Penicillins																																							
Amoxicillin	1																																						
Amoxicillin/Clavulanic acid	1																																						



**Table Antimicrobial susceptibility testing of *S. Typhimurium* in Meat from turkey - mechanically separated meat (MSM)
- Monitoring - quantitative data [Diffusion method]**

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																							
S. Typhimurium																																							
Meat from turkey - mechanically separated meat (MSM) - Monitoring																																							
Isolates out of a monitoring programme	yes																																						
Number of isolates available in the laboratory	7																																						
Antimicrobials:	N	7	5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Tetracyclines		7												3	1												2												
Amphenicols		7	5	5																					1	1													
Chloramphenicol		7	5	5																																			
Florfenicol		7	5	5																							1	1											
Cephalosporins		7	0																																	1		6	
Cefotaxim(3)		7																																					
Fluoroquinolones		7	0																1																	1	5		
Ciprofloxacin(1)		7	0																																	2	3		
Enrofloxacin(2)		7	1				1																									1							
Flumequin		2	0																															2					
Quinolones		7	1	1																																			
Nalidixic acid		7	1	1																																			
Trimethoprim		7	1	1																																			
Sulfonamides		7	7	7																																			
Sulfonamide		7	7	7																																			
Aminoglycosides		7	6	6																																			
Streptomycin		7	0																																				
Gentamicin		7	0																																				
Neomycin		7	0																																				
Kanamycin		7	0																																				
Spectinomycin		7	6	6																																			
Trimethoprim + sulfonamides		7	2	2																																			
Penicillins		7	5	5																																			
Amoxicillin		7	5	5																																			

[illegible]

(1) : one strain 36 mm, two 37 mm, one 39 mm, one 40 mm

(2): one strain 36 mm

(3) : two strains 36 mm, one 37 mm, three 40 mm

Table Antimicrobial susceptibility testing of *S. Typhimurium* - qualitative data (Part A)

n = Number of resistant isolates																
S. Typhimurium																
	Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked	Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - Monitoring	Meat from turkey - mechanically separated meat (MSM) - Monitoring	Meat from pig - fresh - Monitoring	Meat from pig - carcass - Monitoring	Meat from pig - minced meat - Monitoring	Meat from pig - meat products - Monitoring	Meat from bovine animals - minced meat - Monitoring	Meat from rabbit - mechanically separated meat (MSM) - Monitoring	Meat from turkey - offal - liver - Monitoring						
Isolates out of a monitoring programme	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes						
Number of isolates available in the laboratory	1	2	7	5	2	1	1	1	1	1						
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Tetracyclines	1	1	2	2	7	5	5	3	2	2	1	1	0	1	1	1
Amphenicols																
Chloramphenicol	1	0	2	2	7	5	5	0	2	1	1	0	1	0	1	1
Florfenicol	1	0	2	2	7	5	5	0	2	1	1	0	1	0	1	1
Cephalosporins																
Cefotaxim	1	0	2	0	7	0	5	0	2	0	1	0	1	0	1	0
Fluoroquinolones																
Ciprofloxacin	1	0	2	0	7	0	5	0	2	0	1	0	1	0	1	0
Enrofloxacin	1	0	2	0	7	1	5	0	2	0	1	0	1	0	1	0
Flumequin					2	0	3	0					1	0	1	1
Quinolones																
Nalidixic acid	1	1	2	0	7	1	5	0	2	2	1	1	0	1	0	1
Trimethoprim	1	1	2	0	7	1	5	2	2	1	1	0	1	0	1	0
Sulfonamides																
Sulfonamide	1	1	2	2	7	7	5	3	2	2	1	1	0	1	1	1
Aminoglycosides																

Streptomycin	1	1	2	2	2	5	6	7	7	2	2	1	1	0	1	0	1	1	1	1	1	1	1
Gentamicin	1	0	2	0	2	5	0	7	0	1	2	1	1	0	1	0	1	0	1	0	1	0	0
Neomycin	1	0	2	0	2	5	0	7	0	0	2	0	1	0	1	0	1	0	1	0	1	0	0
Kanamycin	1	0	2	0	2	5	0	7	0	0	2	0	1	0	1	0	1	0	1	0	1	0	0
Spectinomycin	1	0	2	2	2	5	1	7	6	1	2	1	1	0	1	0	1	0	1	1	1	1	1
Trimethoprim + sulfonamides	1	1	2	0	2	5	2	7	2	1	2	1	1	0	1	0	1	1	0	1	1	0	0
Penicillins																							
Amoxicillin	1	1	2	2	2	5	2	7	5	2	2	2	1	1	1	0	1	1	1	1	1	1	1
Amoxicillin/Clavulanic acid	1	0	2	0	2	5	0	7	1	0	2	1	1	0	1	0	1	1	1	1	1	0	0
Ampicillin	1	1	2	2	2	5	2	7	6	2	2	2	1	1	1	0	1	1	1	1	1	1	1

Table Antimicrobial susceptibility testing of *S. Typhimurium* - qualitative data (Part B)

n = Number of resistant isolates			
<i>S. Typhimurium</i>			
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - minced meat - Monitoring			
Isolates out of a monitoring programme	yes		
Number of isolates available in the laboratory	2		
Antimicrobials:	N	n	
Tetracyclines	2	2	
Amphenicols			
Chloramphenicol	2	2	
Florfenicol	2	1	
Cephalosporins			
Cefotaxim	2	0	
Fluoroquinolones			
Ciprofloxacin	2	0	
Enrofloxacin	2	0	
Flumequin	1	0	
Quinolones			
Nalidixic acid	2	0	
Trimethoprim	2	1	
Sulfonamides			
Sulfonamide	2	1	
Aminoglycosides			
Streptomycin	2	1	
Gentamicin	2	0	
Neomycin	2	0	
Kanamycin	2	0	
Spectinomycin	2	1	
Trimethoprim + sulfonamides	2	0	
Penicillins			

Amoxicillin	2	2
Amoxicillin/Clavulanic acid	2	2
Ampicillin	2	2

**Table Antimicrobial susceptibility testing of *S. Typhimurium* in Meat from rabbit - mechanically separated meat (MSM)
- Monitoring - quantitative data [Diffusion method]**

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. Typhimurium																																	
Meat from rabbit - mechanically separated meat (MSM) - Monitoring																																	
Isolates out of a monitoring programme		yes																															
Number of isolates available in the laboratory		1																															
Antimicrobials:		N																															
Tetracyclines		1																															
Amphenicols																																	
Chloramphenicol		1																															
Florfenicol		1																															
Cephalosporins																																	
Cefotaxim(2)		1																															
Fluoroquinolones																																	
Ciprofloxacin(1)		1																															
Enrofloxacin		1																															
Quinolones																																	
Nalidixic acid		1																															
Trimethoprim																																	
		1																															
Sulfonamides																																	
Sulfonamide		1																															
Aminoglycosides																																	
Streptomycin		1																															
Gentamicin		1																															
Neomycin		1																															
Kanamycin		1																															
Spectinomycin		1																															
Trimethoprim + sulfonamides																																	
		1																															
Penicillins																																	
Amoxicillin		1																															
Amoxicillin/Clavulanic acid		1																															



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

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																						
S. Typhimurium																																						
Meat from bovine animals - minced meat - Monitoring																																						
Isolates out of a monitoring programme	yes																																					
	1																																					
Number of isolates available in the laboratory																																						
Antimicrobials:	N																																					
Tetracyclines	1																																					
Amphenicols																																						
Chloramphenicol	1																																					
Florfenicol	1																																					
Cephalosporins																																						
Cefotaxim(1)	1																																					
Fluoroquinolones																																						
Ciprofloxacin	1																																					
Enrofloxacin	1																																					
Flumequin	1																																					
Quinolones																																						
Nalidixic acid	1																																					
Trimethoprim	1																																					
Sulfonamides																																						
Sulfonamide	1																																					
Aminoglycosides																																						
Streptomycin	1																																					
Gentamicin	1																																					
Neomycin	1																																					
Kanamycin	1																																					
Spectinomycin	1																																					
Trimethoprim + sulfonamides	1																																					
Penicillins																																						
Amoxicillin	1																																					

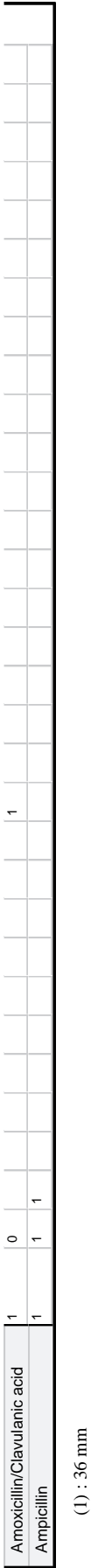


Table Antimicrobial susceptibility testing of *S. Typhimurium* in Meat from broilers (*Gallus gallus*) - mechanically separated meat (MSM) - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. Typhimurium																																	
Meat from broilers (Gallus gallus) - mechanically separated meat (MSM) - Monitoring																																	
Isolates out of a monitoring programme		yes																															
Number of isolates available in the laboratory		2																															
Antimicrobials:		N																															
Tetracyclines		2		2																													
Amphenicols																																	
Chloramphenicol		2		2	2																												
Florfenicol		2		2	2																												
Cephalosporins																																	
Cefotaxim(3)		2		0																													1
Fluoroquinolones																																	
Ciprofloxacin(1)		2		0																													1
Enrofloxacin(2)		2		0																													1
Quinolones																																	
Nalidixic acid		2		0																									1	1			
Trimethoprim		2		0																													
Sulfonamides																																	
Sulfonamide		2		2	2																												
Aminoglycosides																																	
Streptomycin		2		2	2																												
Gentamicin		2		0																													
Neomycin		2		0																													
Kanamycin		2		0																													
Spectinomycin		2		2	2																												
Trimethoprim + sulfonamides		2		0																													2
Penicillins																																	
Amoxicillin		2		2	2																												
Amoxicillin/Clavulanic acid		2		0																													



Table Antimicrobial susceptibility testing of S. Typhimurium in Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - minced meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																				
S. Typhimurium																																				
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos) - minced meat - Monitoring																																				
Isolates out of a monitoring programme		yes																																		
Number of isolates available in the laboratory		2																																		
Antimicrobials:		N	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Tetracyclines		2																																		
Amphenicols		2	2	2																																
Chloramphenicol		2																																		
Florfenicol		2	1	1																																
Cephalosporins		2																																		
Cefotaxim(2)		2	0																																	
Fluoroquinolones		2	0																																	
Ciprofloxacin(1)		2																																		
Enrofloxacin		2	0																																	
Flumequin		1	0																																	
Quinolones		2	0																																	
Nalidixic acid		2																																		
Trimethoprim		2	1																																	
Sulfonamides		2	1	1																																
Sulfonamide		2	1	1																																
Aminoglycosides		2	1	1																																
Streptomycin		2																																		
Gentamicin		2	0																																	
Neomycin		2	0																																	
Kanamycin		2	0																																	
Spectinomycin		2	1	1																																
Trimethoprim + sulfonamides		2	0																																	
Penicillins																																				

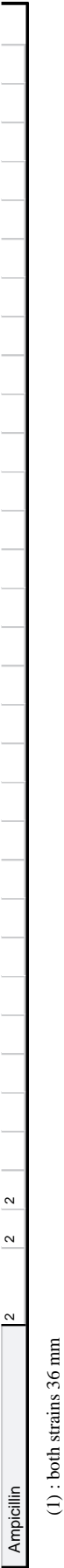
[illegible]

(1) : one strain 38 mm, one 40 mm

(2): one strain 37 mm

Table Antimicrobial susceptibility testing of S. Typhimurium in Meat from pig - carcass - Monitoring - quantitative data
[Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration ($\mu\text{l/ml}$) or zone (mm) of inhibition equal to			35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	N
S. Typhimurium																																		
Meat from pig - carcass - Monitoring																																		
Isolates out of a monitoring programme	yes																																	
Number of isolates available in the laboratory		2																																
Antimicrobials:																																		
Tetracyclines			2	2							1	1																						
Amphenicols																																		
Chloramphenicol		2											1																					
Florfenicol		2											1																					
Cephalosporins																																		
Cefotaxim(1)		2		0																														2
Fluoroquinolones																																		
Ciprofloxacin		2		0																														
Enrofloxacin		2		0										2																				
Quinolones																																		
Nalidixic acid		2		2	2																													
Trimethoprim		2		1	1																													
Sulfonamides																																		
Sulfonamide		2		2	2																													
Aminoglycosides																																		
Streptomycin		2		1	1																													
Gentamicin		2		1	1																													
Neomycin		2		0																														
Kanamycin		2		0																														
Spectinomycin		2		1	1																													
Trimethoprim + sulfonamides		2		1	1																													
Penicillins																																		
Amoxicillin		2		2	2																													
Amoxicillin/Clavulanic acid		2		1																														



224

[illegible]

[illegible]

- (1) : two strains 36 mm, one 38 mm, one 40 mm
- (2) : one strain 36 mm, one 37 mm
- (3) : two strains 36 mm, two 38 mm, one 40 mm

Table Antimicrobial susceptibility testing of S. Virchow in Meat from pig - carcass - Monitoring - quantitative data
[Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. Virchow																																	
Meat from pig - carcass - Monitoring																																	
Isolates out of a monitoring programme	yes																																
Number of isolates available in the laboratory	2																																
Antimicrobials:	N																																
Tetracyclines	2	0												1																			
Amphenicols																																	
Chloramphenicol	2	0													1																		
Florfenicol	2	0																															
Cephalosporins																																	
Cefotaxim(4)	2	0																															
Fluoroquinolones																																	
Ciprofloxacin(1)	2	0																															
Enrofloxacin(2)	2	0																															
Quinolones																																	
Nalidixic acid	2	0																															
Trimethoprim	2	0																															
Sulfonamides																																	
Sulfonamide	2	0																															
Aminoglycosides																																	
Streptomycin	2	0																															
Gentamicin	2	0																															
Neomycin	2	0																															
Kanamycin	2	0																															
Spectinomycin	2	0																															
Trimethoprim + sulfonamides(3)	2	0																															
Penicillins																																	
Amoxicillin	2	0																															
Amoxicillin/Clavulanic acid	2	0																															

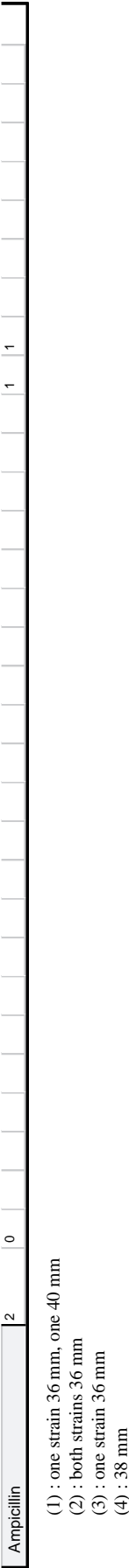


Table Antimicrobial susceptibility testing of S. Virchow in Meat from turkey - mechanically separated meat (MSM) - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																						
S. Virchow																																						
Meat from turkey - mechanically separated meat (MSM) - Monitoring																																						
Isolates out of a monitoring programme		yes																																				
Number of isolates available in the laboratory		1																																				
Antimicrobials:		N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Tetracyclines		1	0																	1																		
Amphenicols		1	0																1																			
Chloramphenicol		1	0																1																			
Florfenicol		1	0																1																			
Cephalosporins		1	0																																			
Cefotaxim(3)		1	0																																			1
Fluoroquinolones		1	0																																			
Ciprofloxacin(1)		1	0																																			1
Enrofloxacin(2)		1	0																																			1
Quinolones		1	0																																			
Nalidixic acid		1	0																																			1
Trimethoprim		1	0																																			1
Sulfonamides		1	0																																			
Sulfonamide		1	0																																			
Aminoglycosides		1	0																																			
Streptomycin		1	0																																			
Gentamicin		1	0																																			1
Neomycin		1	0																																			
Kanamycin		1	0																																			
Spectinomycin		1	0																																			
Trimethoprim + sulfonamides		1	0																																			1
Penicillins		1	0																																			
Amoxicillin		1	0																																			
Amoxicillin/Clavulanic acid		1	0																																			1



Table Antimicrobial susceptibility testing of *S. Virchow* in Meat from pig - meat products - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																						
S. Virchow																																						
Meat from pig - meat products - Monitoring																																						
Isolates out of a monitoring programme		yes																																				
Number of isolates available in the laboratory		1																																				
		N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Antimicrobials:		1	1											1																								
Tetracyclines		1	1																																			
Amphenicols		1	1	1																																		
Chloramphenicol		1	1	1																																		
Florfenicol		1	1	1																																		
Cephalosporins		1	0																																			1
Cefotaxim(1)		1	0																																			
Fluoroquinolones		1	0																																			
Ciprofloxacin		1	0																																			1
Enrofloxacin		1	0																																			
Quinolones		1	1	1																																		
Nalidixic acid		1	1	1																																		
Trimethoprim		1	1	1																																		
Sulfonamides		1	1	1																																		
Sulfonamide		1	1	1																																		
Aminoglycosides		1	1	1																																		
Streptomycin		1	1	1																																		
Gentamicin		1	1	1																																		
Neomycin		1	1	1																																		
Kanamycin		1	1	1																																		
Spectinomycin		1	1	1																																		
Trimethoprim + sulfonamides		1	1	1																																		
Penicillins		1	1	1																																		
Amoxicillin		1	1	1																																		
Amoxicillin/Clavulanic acid		1	1	1																																		1

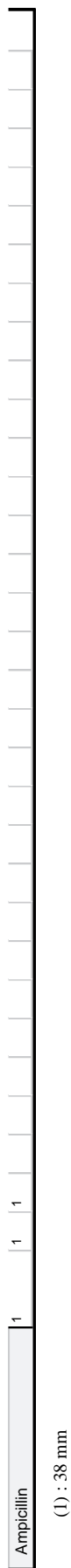


Table Antimicrobial susceptibility testing of S. Virchow - qualitative data

n = Number of resistant isolates

	S. Virchow					
	Meat from turkey - mechanically separated meat (MSM) - Monitoring		Meat from pig - carcass		Meat from pig - meat products - Monitoring	
Isolates out of a monitoring programme	yes		yes		yes	
Number of isolates available in the laboratory	1		2		1	
Antimicrobials:	N	n	N	n	N	n
Tetracyclines	1	0	2	0	1	1
Amphenicols						
Chloramphenicol	1	0	2	0	1	1
Florfenicol	1	0	2	0	1	1
Cephalosporins						
Cefotaxim	1	0	2	0	1	0
Fluoroquinolones						
Ciprofloxacin	1	0	2	0	1	0
Enrofloxacin	1	0	2	0	1	0
Quinolones						
Nalidixic acid	1	0	2	0	1	1
Trimethoprim	1	0	2	0	1	1
Sulfonamides						
Sulfonamide	1	0	2	0	1	1
Aminoglycosides						
Streptomycin	1	0	2	0	1	1
Gentamicin	1	0	2	0	1	1
Neomycin	1	0	2	0	1	1
Kanamycin	1	0	2	0	1	1
Spectinomycin	1	0	2	0	1	1
Trimethoprim + sulfonamides	1	0	2	0	1	1
Penicillins						
Amoxicillin	1	0	2	0	1	1
Amoxicillin/Clavulanic acid	1	0	2	0	1	1
Ampicillin	1	0	2	0	1	1

Table Antimicrobial susceptibility testing of *S. enterica* subsp. *arizonae* in Turtles - at zoo - Surveillance - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																			
S. enterica subsp. arizonae																																			
Turtles - at zoo - Surveillance																																			
Isolates out of a monitoring programme	no																																		
	1																																		
Number of isolates available in the laboratory																																			
Antimicrobials:	N	n	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35			
Amphenicols																																			
Chloramphenicol	1	0													1																				
Florfenicol	1	0																										1							
Cephalosporins																																			
Cefotaxim(3)	1	0																														1			
Fluoroquinolones																																			
Ciprofloxacin(1)	1	0																														1			
Enrofloxacin	1	0																														1			
Flumequin	1	0																										1							
Quinolones																																			
Nalidixic acid	1	0																								1									
Trimethoprim(2)	1	0																														1			
Sulfonamides																																			
Sulfonamide	1	0																										1							
Aminoglycosides																																			
Streptomycin	1	0													1																				
Gentamicin	1	0																				1													
Neomycin	1	0																											1						
Kanamycin	1	0																																	
Spectinomycin	1	0																																	
Trimethoprim + sulfonamides	1	0																															1		
Penicillins																																			
Amoxicillin	1	0																								1									
Amoxicillin/Clavulanic acid	1	0																														1			
Ampicillin	1	0																														1			

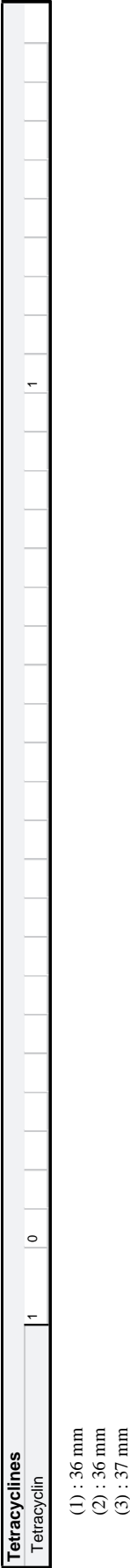


Table Antimicrobial susceptibility testing of *S. enterica* subsp. *arizonae* in Snakes - zoo animal - at zoo - Surveillance - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. enterica subsp. arizonae																																	
Snakes - zoo animal - at zoo - Surveillance																																	
Isolates out of a monitoring programme	no																																
Number of isolates available in the laboratory	1																																
Antimicrobials:	N																																
Amphenicols																																	
Chloramphenicol	1	0																			1												
Florfenicol	1	0																							1								
Cephalosporins																																	
Cefotaxim	1	0																										1					
Fluoroquinolones																																	
Ciprofloxacin	1	0																															1
Enrofloxacin	1	0																							1								
Flumequin	1	0																											1				
Quinolones																																	
Nalidixic acid	1	0																							1								
Trimethoprim	1	0																										1					
Sulfonamides																																	
Sulfonamide	1	0																										1					
Aminoglycosides																																	
Streptomycin	1	0																															
Gentamicin	1	0																										1					
Neomycin	1	0																															
Kanamycin	1	0																															
Spectinomycin	1	0																															
Trimethoprim + sulfonamides	1	0																															
Penicillins																																	
Amoxicillin	1	0																															
Amoxicillin/Clavulanic acid	1	0																															
Ampicillin	1	0																															



Table Antimicrobial susceptibility testing of *S. enterica* subsp. *arizonae* - qualitative data

n = Number of resistant isolates				
	S. enterica subsp. arizonae			
	Turtles - at zoo		Snakes - at zoo	
Isolates out of a monitoring programme	no		no	
Number of isolates available in the laboratory	1		1	
Antimicrobials:	N	n	N	n
Tetracyclines	1	0	1	0
Amphenicols				
Chloramphenicol	1	0	1	0
Florfenicol	1	0	1	0
Cephalosporins				
Cefotaxim	1	0	1	0
Fluoroquinolones				
Ciprofloxacin	1	0	1	0
Enrofloxacin	1	0	1	0
Flumequin	1	0	1	0
Quinolones				
Nalidixic acid	1	0	1	0
Trimethoprim	1	0	1	0
Sulfonamides				
Sulfonamide	1	0	1	0
Aminoglycosides				
Streptomycin	1	0	1	0
Gentamicin	1	0	1	0
Neomycin	1	0	1	0
Kanamycin	1	0	1	0
Spectinomycin	1	0	1	0
Trimethoprim + sulfonamides	1	0	1	0
Penicillins				
Amoxicillin	1	0	1	0
Amoxicillin/Clavulanic acid	1	0	1	0
Ampicillin	1	0	1	0

Table Antimicrobial susceptibility testing of *S. enterica* subsp. *diarizonae* in Turtles - at zoo - Surveillance - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																				
<i>S. enterica</i> subsp. <i>diarizonae</i>																																				
Turtles - at zoo - Surveillance																																				
Isolates out of a monitoring programme	no																																			
Number of isolates available in the laboratory	3																																			
Antimicrobials:			N																																	
Amphenicols																																				
Chloramphenicol	3	0																																		
Florfenicol	3	0																																		
Cephalosporins																																				
Cefotaxim(3)	3	0																																		
Fluoroquinolones																																				
Ciprofloxacin(1)	3	0																																		
Enrofloxacin	3	0																																		
Flumequin	3	0																																		
Quinolones																																				
Nalidixic acid	3	0																																		
Trimethoprim	3	0																																		
Sulfonamides																																				
Sulfonamide	3	0																																		
Aminoglycosides																																				
Streptomycin	3	2																																		
Gentamicin	3	0																																		
Neomycin	3	0																																		
Kanamycin	3	0																																		
Spectinomycin	3	0																																		
Trimethoprim + sulfonamides(2)	3	0																																		
Penicillins																																				
Amoxicillin	3	0																																		
Amoxicillin/Clavulanic acid	3	0																																		
Ampicillin	3	0																																		

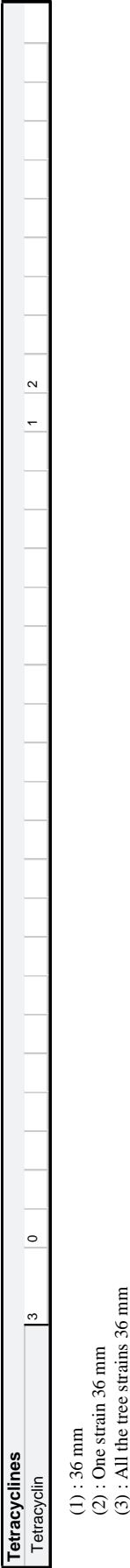


Table Antimicrobial susceptibility testing of *S. enterica* subsp. *diarizonae* in Snakes - zoo animal - at zoo - Surveillance - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																	
S. enterica subsp. diarizonae																																	
Snakes - zoo animal - at zoo - Surveillance																																	
Isolates out of a monitoring programme	no																																
Number of isolates available in the laboratory	2																																
Antimicrobials:	N																																
Amphenicols																																	
Chloramphenicol	2	0																							1	1							
Florfenicol	2	0																							1								
Cephalosporins																																	
Cefotaxim(2)	2	0																															
Fluoroquinolones																																	
Ciprofloxacin(1)	2	0																															2
Enrofloxacin	2	0																													1		
Flumequin	2	0																													1		
Quinolones																																	
Nalidixic acid	2	0																															
Trimethoprim	2	0																														1	
Sulfonamides																																	
Sulfonamide	2	0																															
Aminoglycosides																																	
Streptomycin	2	1								1																							
Gentamicin	2	0																															
Neomycin	2	0																														1	
Kanamycin	2	0																															
Spectinomycin	2	0																															
Trimethoprim + sulfonamides	2	0																															2
Penicillins																																	
Amoxicillin	2	0																														1	
Amoxicillin/Clavulanic acid	2	0																															
Ampicillin	2	0																														1	

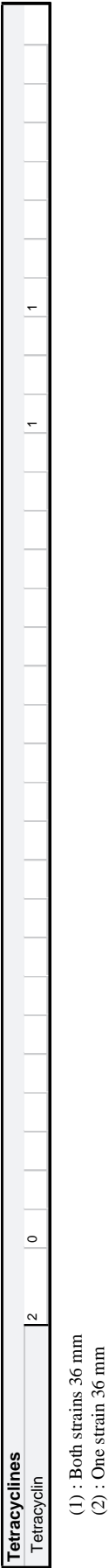


Table Antimicrobial susceptibility testing of *S. enterica* subsp. *diarizonae* - qualitative data

n = Number of resistant isolates

<i>S. enterica</i> subsp. <i>diarizonae</i>				
	Turtles - at zoo - Surveillance		Snakes - zoo animal - at zoo - Surveillance	
Isolates out of a monitoring programme	no		no	
Number of isolates available in the laboratory	3		2	
Antimicrobials:	N	n	N	n
Tetracyclines	3	0		
Amphenicols				
Chloramphenicol	3	0	2	0
Florfenicol	3	0	2	0
Cephalosporins				
Cefotaxim	3	0	2	0
Fluoroquinolones				
Ciprofloxacin	3	0	2	0
Enrofloxacin	3	0	2	0
Flumequin	3	0	2	0
Quinolones				
Nalidixic acid	3	0	2	0
Trimethoprim	3	0	2	0
Sulfonamides				
Sulfonamide	3	0	2	0
Aminoglycosides				
Streptomycin	3	2	2	1
Gentamicin	3	0	2	0
Neomycin	3	0	2	0
Kanamycin	3	0	2	0
Spectinomycin	3	0	2	0
Trimethoprim + sulfonamides	3	0	2	0
Penicillins				
Amoxicillin	3	0	2	0
Amoxicillin/Clavulanic acid	3	0	2	0
Ampicillin	3	0	2	0

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[illegible]

[illegible]

Table Antimicrobial susceptibility testing of *S. enterica* subsp. *salamae* - qualitative data

n = Number of resistant isolates				
	S. enterica subsp. salamae			
	Reptiles - zoo animal - at zoo - Surveillance		Snakes - zoo animal - at zoo - Surveillance	
Isolates out of a monitoring programme	no		no	
Number of isolates available in the laboratory	3		5	
Antimicrobials:	N	n	N	n
Tetracyclines	3	0	5	0
Amphenicols				
Chloramphenicol	3	0	5	0
Florfenicol	3	0	5	0
Cephalosporins				
3rd generation cephalosporins	3	0	5	0
Cefotaxim	3	0	5	0
Fluoroquinolones				
Ciprofloxacin	3	0	5	0
Enrofloxacin	3	0	5	0
Flumequin	3	0	5	0
Quinolones				
Nalidixic acid	3	0	5	0
Trimethoprim	3	0	5	0
Sulfonamides				
Sulfonamide	3	0	5	0
Aminoglycosides				
Streptomycin	3	0	5	0
Gentamicin	3	0	5	0
Neomycin	3	0	5	0
Kanamycin	3	0	5	0
Spectinomycin	3	0	5	0
Trimethoprim + sulfonamides	3	0	5	0
Penicillins				
Amoxicillin	3	0	5	0
Amoxicillin/Clavulanic acid	3	0	5	0
Ampicillin	3	0	5	0

246

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																
S. enterica subsp. salamae																																
Reptiles - zoo animal - at zoo - Surveillance																																
Isolates out of a monitoring programme	no																															
		3																														
Number of isolates available in the laboratory	3																															
		N																														
Antimicrobials:																																
Amphenicols		3	0																													
	Chloramphenicol	3																														
	Florfenicol	3	0																													
Cephalosporins		3	0																													
	Cefotaxim	3																														
Fluoroquinolones		3	0																													
	Ciprofloxacin	3																														
	Enrofloxacin	3	0																													
	Flumequin	3	0																													
Quinolones		3	0																													
	Nalidixic acid	3																														
Trimethoprim		3	0																													
Sulfonamides		3	0																													
	Sulfonamide	3																														
Aminoglycosides		3	0																													
	Streptomycin	3																														
	Gentamicin	3																														
	Neomycin	3	0																													
	Kanamycin	3	0																													
	Spectinomycin	3	0																													
Trimethoprim + sulfonamides		3	0																													
Penicillins		3	0																													
	Amoxicillin	3																														
	Amoxicillin/Clavulanic acid	3	0																													
	Ampicillin	3	0																													



Table Antimicrobial susceptibility testing of *S. Chartres* in carcass - Meat from turkey - chilled - in total - Monitoring - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to																																		
S. Chartres																																		
Meat from turkey - carcass - chilled - in total - Monitoring																																		
Isolates out of a monitoring programme		yes																																
Number of isolates available in the laboratory		1																																
Antimicrobials:		N	n	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Amphenicols		1	0															1																
	Chloramphenicol	1	0																															
	Florfenicol	1	0																			1												
Cephalosporins		1	0																															
	Cefotaxim	1	0																													1		
Fluoroquinolones		1	0																															
	Ciprofloxacin	1	0																															
	Enrofloxacin	1	0												1																			
Quinolones		1	1	1																														
	Nalidixic acid	1	1	1																														
Trimethoprim		1	0																															
Sulfonamides		1	0																															
	Sulfonamide	1	0																													1		
Aminoglycosides		1	0																															
	Streptomycin	1	0											1																				
	Gentamicin	1	0																															
	Neomycin	1	0																			1												
	Kanamycin	1	0																			1												
	Spectinomycin	1	0																			1												
		1	0																															
																																		</



Table Antimicrobial susceptibility testing of S. Chartres - qualitative data

n = Number of resistant isolates

S. Chartres		
Meat from turkey - carcass - chilled - Monitoring		
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	1	
Antimicrobials:	N	n
Tetracyclines	1	0
Amphenicols		
Chloramphenicol	1	0
Florfenicol	1	0
Cephalosporins		
Cefotaxim	1	0
Fluoroquinolones		
Ciprofloxacin	1	0
Enrofloxacin	1	0
Quinolones		
Nalidixic acid	1	1
Trimethoprim	1	0
Sulfonamides		
Sulfonamide	1	0
Aminoglycosides		
Streptomycin	1	0
Gentamicin	1	0
Neomycin	1	0
Kanamycin	1	0
Spectinomycin	1	0
Trimethoprim + sulfonamides	1	0
Penicillins		
Amoxicillin	1	0
Amoxicillin/Clavulanic acid	1	0
Ampicillin	1	0

Table Antimicrobial susceptibility testing of *S. enterica* subsp. *enterica*, rough - qualitative data

n = Number of resistant isolates		
	S. enterica subsp. enterica, rough	
	Meat from broilers (Gallus gallus) - meat products - Monitoring	
Isolates out of a monitoring programme	yes	
Number of isolates available in the laboratory	3	
Antimicrobials:	N	n
Tetracyclines	3	0
Amphenicols		
Chloramphenicol	3	0
Florfenicol	3	0
Cephalosporins		
Cefotaxim	3	0
Fluoroquinolones		
Ciprofloxacin	3	0
Enrofloxacin	3	0
Quinolones		
Nalidixic acid	3	0
Trimethoprim	3	1
Sulfonamides		
Sulfonamide	3	0
Aminoglycosides		
Streptomycin	3	0
Gentamicin	3	0
Neomycin	3	0
Kanamycin	3	0
Spectinomycin	3	0
Trimethoprim + sulfonamides	3	0
Penicillins		
Amoxicillin	3	0
Amoxicillin/Clavulanic acid	3	0
Ampicillin	3	0

252

[illegible]



Table Breakpoints for antibiotic resistance testing of Salmonella in Animals**Test Method Used**

Disc diffusion
Agar dilution
Broth dilution
E-test

Standards used for testing

NCCLS

Salmonella	Standard for breakpoint	Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		disk content microg	breakpoint Zone diameter (mm)		
		Susceptible <=	Intermediate	Resistant >	lowest	highest		Susceptible >=	Intermediate	Resistant <=
Tetracyclines							30	19		14
Amphenicols										
Chloramphenicol							30	18		12
Florfenicol							30	20		16
Fluoroquinolones										
Ciprofloxacin							5	21		15
Enrofloxacin							5	20		16
Flumequin							30	20		16
Quinolones										
Nalidixic acid							30	19		13
Trimethoprim							5	16		10
Sulfonamides										
Sulfonamide							300	17		12
Aminoglycosides										
Streptomycin							10	15		11
Gentamicin							10	15		12
Neomycin							30	17		12
Kanamycin							30	18		13
Spectinomycin							100	18		14
Trimethoprim + sulfonamides							25	16		10
Cephalosporins										
Cefotaxim							30	23		14
3rd generation cephalosporins										
Penicillins										
Amoxicillin							10	17		13
Amoxicillin/Clavulanic acid							30	17		13
Ampicillin							10	17		13

Footnote

in some cases instead of a disc a tablet was used for neomycin with breakpoints R <= 19, S <= 23 mm

Table Breakpoints for antibiotic resistance testing of Salmonella in Food**Test Method Used**

Disc diffusion
Agar dilution
Broth dilution
E-test

Standards used for testing

Salmonella	Standard for breakpoint	Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		disk content microg	breakpoint Zone diameter (mm)		
		Susceptible ≤	Intermediate	Resistant >	lowest	highest		Susceptible ≥	Intermediate	Resistant ≤
Tetracyclines							30	19		14
Amphenicols										
Chloramphenicol							30	18		12
Florfenicol							30	20		16
Fluoroquinolones										
Ciprofloxacin							5	21		15
Enrofloxacin							5	20		16
Flumequin							30	20		16
Quinolones										
Nalidixic acid							30	19		13
Trimethoprim							5	16		10
Sulfonamides										
Sulfonamide							300	17		12
Aminoglycosides										
Streptomycin							10	15		11
Gentamicin							10	15		12
Neomycin							30	17		12
Kanamycin							30	18		13
Spectinomycin							100	18		14
Trimethoprim + sulfonamides							25	16		10
Cephalosporins										
Cefotaxim							30	23		14
3rd generation cephalosporins										
Penicillins										
Amoxicillin							10	17		13
Amoxicillin/Clavulanic acid							30	17		13
Ampicillin							10	17		13

Footnote

in some cases instead of disc a tablet was used for neomycin with brakpoints R ≤ 19 mm, S ≥ 23 mm

Table Breakpoints for antibiotic resistance testing of Salmonella in Feedingstuff**Test Method Used**

Disc diffusion
Agar dilution
Broth dilution
E-test

Standards used for testing

NCCLS

Salmonella	Standard for breakpoint	Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		disk content microg	breakpoint Zone diameter (mm)		
		Susceptible ≤	Intermediate	Resistant >	lowest	highest		Susceptible ≥	Intermediate	Resistant ≤
Tetracyclines							30	19		14
Amphenicols										
Chloramphenicol							30	18		12
Florfenicol							30	20		16
Fluoroquinolones										
Ciprofloxacin							5	21		15
Enrofloxacin							5	20		16
Flumequin							30	20		16
Quinolones										
Nalidixic acid							30	19		13
Trimethoprim							5	16		10
Sulfonamides										
Sulfonamide							300	17		12
Aminoglycosides										
Streptomycin							10	15		11
Gentamicin							10	15		12
Neomycin							30	17		12
Kanamycin							30	18		13
Spectinomycin							100	18		14
Trimethoprim + sulfonamides							25	16		10
Cephalosporins										
Cefotaxim							30	23		14
3rd generation cephalosporins										
Penicillins										
Amoxicillin							10	17		13
Amoxicillin/Clavulanic acid							30	17		13
Ampicillin							10	17		13

Footnote

in some cases instead of disc a tablet was used for neomycin with breakpoints: R < or = 19 mm, S > or = 23 mm

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 1986/87 the notification of Campylobacter enteritis started and became obligatory due to Law on Infectious diseases.

The number of notified cases decreased from 2000 to 2003 and increased from 2003 to 2005.

In 2004 number of notifications increased for 19,4% (compared to 2003);

in 2005 number of notifications increased for 2,3 %.

The incidence of infection in 2005 was 54 / 100 000 inhabitants.

No outbreaks were recordered in last years.

The real burden of disease is not known. (The incidence of infections is estimated from data on notifications).

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

In 2004 number of notifications increased for 19,4% (compared to 2003);

in 2005 number of notifications increased for 2,3 %.

The incidence of infection in 2005 was 54 / 100 000 inhabitants.

No outbreaks were recordered in last years.

The real burden of disease is not known. (The incidence of infections is estimated from data on notifications).

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

Poultry and eggs remain potential source of infection.

2.2.2. Campylobacter, thermophilic in foodstuffs

A. Thermophilic Campylobacter in Broiler meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

Broiler and turkey meat sampling is carried out in all the registered cutting plants, and bovine and porcine meat sampling in all the cutting plants of industrial type (EU-approved).

A meat sample constitutes an epidemiological unit.

Sampling is carried out by official veterinarians.

At retail

HIRS

Annual monitoring programme was prepared with respect to the results of programme/controls carried out in the previous year, epidemiological situation, Commission Recommendation concerning a coordinated programme for the official control of foodstuffs.

The majority of samples were taken in cities with 10000 inhabitants or more and number of samples taken was proportional with the population in the region.

There were taken at the retail level where sampling could give an overview over the situation.

Sampling carried out by health inspectors.

Programme: 100 samples of fresh poultry meat per annum.

Frequency of the sampling

At slaughterhouse and cutting plant

Other: In poultry cutting plants, 1 poultry meat sample per month is taken. According to plan, 70 % of broiler meat, and 30 % of turkey meat are sampled.

At retail

Sampling takes place during the months February - August

Type of specimen taken

At slaughterhouse and cutting plant

Fresh meat

At retail

Other: prepacked fresh meat

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

A meat sample weighing approximately 300 g is removed by a sterile instrument and stored in a sterile bag. In poultry, the thoracic section is removed.

Samples must be delivered to the laboratory in the shortest time possible, and normally, immediately upon sampling. The period of time elapsing from sampling to analysis shall by no means exceed 3 days. Prior to analysis, the sample must be chilled at +4 °C (± 2 °C).

At retail

HRS

A prepacked fresh meat sample is weighing approximately 300 g. Samples must be delivered to the laboratory in the shortest time possible, and normally, immediately upon sampling. The period of time elapsing from sampling to analysis shall by no means exceed 24 hours. The transportation must be done not over +4 °C.

Definition of positive finding

At slaughterhouse and cutting plant

Positive sample is a sample, where the zoonotic agent has been isolated.

At retail

Positive sample is a sample, where *Campylobacter* has been isolated.

Diagnostic/analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 10272:1995

Preventive measures in place

GMP, GHP, HACCP

At the moment food business operators introduce the system of additional labelling of poultry meat which includes special warning to the customers to treat poultry meat at requested temperature before any use.

Measures in case of the positive findings or single cases

Additional sampling (6 samples) was carried out and other necessary enforcement actions. Since product was no longer on the market at the time of receiving analytical results of samples taken at the retail level in all cases in house control was required.

Notification system in place

VARS Regional Offices must report to VARS Main Office on a monthly basis regarding the monitoring programme implementation and control results.

HRS

Whenever zoonotic agent-Campylobacter is detected in samples taken, relevant authorities must be informed.

Results of the investigation

In 2005, 99 poultry meat samples at cutting plant were taken.

Of 73 poultry/chick meat samples taken, and of 26 turkey meat samples taken, thermophilic campylobacters were isolated from 26 poultry/chick meat samples (35.6 %) and from 1 turkey meat sample (3.9 %). In most cases, *C. jejuni* was isolated (85.2 %).

HRS

Monitoring in retail:

Out of 106 samples of poultry meat taken, 44% were positive on presence of thermophilic Campylobacter. Detailed evaluation of data shows that 38% (85% of all positive samples) of them were positive on presence of Campylobacter jejuni.

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

In comparison to the preceding year (production phase), the situation in 2005 got worse as the percentage of positive samples of fresh meat at processing plants increased for almost 16 %.

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

In the light of positive samples, poultry meat is a possible source of human infection, in particular in case of unsatisfactory thermal treatment or inappropriate food handling.

B. thermophilic Campylobacter spp., unspecified in food - Meat from bovine animals and pig

Monitoring system

Sampling strategy

Bovine and porcine meat sampling is carried out in all the cutting plants of industrial type (EU-approved).

A meat sample constitutes an epidemiological unit.

Sampling is carried out by official veterinarians.

Frequency of the sampling

In bovine meat cutting plants, 1 bovine meat sample is taken every 2 months. According to plan, 20 % of veal, and 80 % of meat of animals for fattening are sampled.

In porcine meat cutting plants, 1 porcine meat sample is taken every 2 months. The meat of pigs for fattening is sampled as well.

Type of specimen taken

Meat

Methods of sampling (description of sampling techniques)

A meat sample weighing approximately 300 g is removed by a sterile instrument and stored in a sterile bag. In poultry, the thoracic section is removed.

Samples must be delivered to the laboratory in the shortest time possible, and normally, immediately upon sampling. The period of time elapsing from sampling to analysis shall by no means exceed 3 days. Prior to analysis, the sample must be chilled at +4 °C (± 2 °C).

Definition of positive finding

Positive sample is a sample, where the zoonotic agent has been isolated.

Diagnostic/analytical methods used

Bacteriological test:

ISO 10272: 1995

Preventive measures in place

GMP, GHP, HACCP

Notification system in place

VARS Regional Offices must report to VARS Main Office on a monthly basis regarding the monitoring programme implementation and control results.

Results of the investigation

In 2005, 101 porcine meat samples were taken, and 109 bovine meat samples. *Campylobacter* was not isolated from the bovine or porcine meat samples.

C. *Campylobacter* spp. in food - Other processed food products and prepared dishes - unspecified

Monitoring system

Sampling strategy

Diagnostic/analytical methods used

ISO 10272: 1995

Preventive measures in place

GMP, GHP, HACCP

Table Campylobacter in poultry meat

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for thermophilic Campylobacter spp.	C. coli	C. lari	C. jejuni	C. upsaliensis	thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus)										
fresh										
- at cutting plant - Monitoring - official sampling - objective sampling	VARs	single		73	26	3		23		
Meat from turkey										
fresh										
- at cutting plant - Monitoring - official sampling - objective sampling	VARs	single		26	1	1				
Meat from poultry, unspecified										
fresh										
chilled (1)	HIRS	single	25g	106	47	7		40		

(1) : prepacked

Footnote

Sample: surface 5 cm x 4 cm

Table Campylobacter in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for thermophilic Campylobacter spp.	C. jejuni	C. coli	C. upsaliensis	C. lari	thermophilic Campylobacter spp., unspecified
Meat from pig										
fresh										
- at cutting plant - Monitoring - official sampling - objective sampling	VARs	single		101	0					
Meat from bovine animals										
fresh										
- at cutting plant - Monitoring - official sampling - objective sampling	VARs	single		109	0					

Footnote

Sample: surface 5 cm x 4 cm

2.2.3. Campylobacter, thermophilic in animals

A. Thermophilic Campylobacter in Gallus gallus

Monitoring system

Sampling strategy

Sampling is carried out continually throughout the year at all the registered poultry slaughter establishments of industrial type (EU-approved). Sampled are broilers raised in the Republic of Slovenia only.

Slaughter batch of more than 2000 animals constitutes an epidemiological unit, where a slaughter batch means animals originating from a single flock delivered to the slaughter establishment in a single means of transport.

Sampling is carried out by the slaughterhouse official veterinarians.

Frequency of the sampling

At slaughter

Other: At slaughter establishments, 1 slaughter batch is sampled twice a week, taking into account that all or most rearing establishments are included in the sampling.

Type of specimen taken

At slaughter

Other: Intact caecum

Methods of sampling (description of sampling techniques)

At slaughter

Sampling is uniformly distributed during the slaughter procedure, depending on the slaughter batch. Sampling commences at the first quarter, and ends at the third quarter of slaughtering a slaughter batch. Example of sampling a slaughter batch including 2000 animals: the first animal to be sampled is the one following the 500-th animal slaughtered, and thereafter, each 100-th animal is sampled, and finally, the animal following the 1500-th animal slaughtered is sampled. A final sample must comprise samples taken from 10 animals.

The caecum is removed during evisceration by sterile scissors and stored in a sterile plastic bag. In the laboratory, samples are pooled into a pool sample.

Samples must be delivered to the laboratory in the shortest possible time, and normally, immediately upon sampling, i.e. within the same day. It is recommended that the analyses should commence immediately upon acceptance of samples in the laboratory. The period of time elapsing from sampling to analysis shall by no means exceed 3 days. Prior to analysis, the samples must be chilled at +4 °C (± 2 °C) and not exposed to light.

In the laboratory, the caecum shall be opened aseptically and the content pooled

in 1 pool sample.

Case definition

At slaughter

Positive slaughter batch means a batch, where the zoonotic agent has been isolated from the sample taken.

Diagnostic/analytical methods used

At slaughter

Bacteriological method: Modified on the basis of ISO 10272: 1995

Notification system in place

VARS Regional Offices must report to VARS Main Office on a monthly basis regarding the monitoring programme implementation and control results

Results of the investigation

In 2005, the caecum samples from 306 slaughter batches were taken at slaughter establishments. Thermophilic campylobacters were detected in 199 samples/slaughter batches, i.e. in 65 %. *C. jejuni* was isolated from 132 samples, *C. jejuni* and *C.coli* were isolated from 26 samples, and *C.coli* was isolated from 41 samples.

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

A relatively high percentage of positive slaughter batches detected might lead to an increased meat contamination in case of a less strict observation of the good hygiene practice and internal control requirements in slaughterhouses. Contaminated meat poses a threat to public health.

Table Campylobacter in animals

	Source of information	Sampling unit	Units tested	Total units positive for Campylobacter, thermophilic	C. jejuni	C. coli	C. lari	C. upsaliensis	thermophilic Campylobacter spp., unspecified
Gallus gallus (fowl)									
broilers									
- at slaughterhouse - Monitoring - official sampling - objective sampling (1)	VARs	slaughter batch	306	199	158	41			

(1) : Intact caeca

Footnote

Broilers:

Units positive for C.jejuni:

158 = 132 C.jejuni + 26 C.jejuni and C.coli

2.2.4. Antimicrobial resistance in Campylobacter, thermophilic isolates

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

In last 5 years 0 to 7 human cases annually were notified.

In 2005 three human cases were notified.

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

Most patients had meningitis.

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

/

Recent actions taken to control the zoonoses

epidemiological surveillance

Suggestions to the Community for the actions to be taken

no suggestions

2.3.2. Listeria in foodstuffs

A. L. monocytogenes in food

Monitoring system

Sampling strategy

HIRS

Monitoring at retail

Annual monitoring programme was prepared with respect to the results of programme/controls carried out in the previous year, epidemiological situation, Commission Recommendation concerning a coordinated programme for the official control of foodstuffs.

The majority of samples were taken in cities with 10000 inhabitants or more and number of samples taken was proportional with the population in the region.

There were taken at the retail level where sampling could give an overview over the situation.

Sampling carried out by health inspectors.

Programme:

Delicatessen, sweets, cheeses, processed food, vegetables, smoked fish, meat products, minced meat, fruits, Ice-cream..

Frequency of the sampling

At retail

Sampling takes place during the months February - September

Methods of sampling (description of sampling techniques)

At retail

Sample is weighing 300-500g. It is prepacked or it is taken by a sterile instrument and stored in a sterile bag in a case the sample is not prepacked. Samples must be delivered to the laboratorij in the shortest time possible, and normally, immediatly upon sampling. The period of time elapsing from sampling to analysis shall by no means exceed 24 hours. The transportation must be done by temperature under + 4 oC.

Definition of positive finding

At retail

HIRS

A sample from which *Listeria monocytogenes* has been isolated.

Diagnostic/analytical methods used

At retail

Bacteriological method: ISO 11290- 1 and 2:1996, 1998

Preventive measures in place

GMP, GHP, HACCP

Measures in case of the positive findings

HIRS

Monitoring at retail

Additional sampling was carried out and other necessary enforcement actions.

Notification system in place

HIRS

Whenever zoonotic agent-*Listeria monocytogenes* is detected in samples taken, relevant authorities must be informed.

Results of the investigation

HIRS

At retail:

A total of 1390 samples were taken at restaurant, retail and catering.

Among all samples taken 1 sample of milk (n=10), 1 sample of vegetables (n=20), 3 samples of sweets (n=265), 4 samples of sandwiches (n=40), 4 samples of fruits (n=112), 6 samples of red meat (n=51), 8 samples of delicatessen (n=351) and 41 samples of minced meat (n=101) were unsuitable due to presence of *L. monocytogenes*.

Out of all 1390 samples taken, 4,8% were positive on presence of *L. monocytogenes*. The highest prevalence of *Listeria monocytogenes* was in samples of minced meat 41%.

All samples of ice-cream, ferment sausages, smoked fishes, cheeses, product in oil, pate' and prepacked vegetables were negative.

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Definition used	Units tested	≤100 cfu/g	>100 cfu/g	Total units positive for L.monocytogenes	Listeria monocytogenes presence in x g	
Milk, cows'										
raw										
intended for direct human consumption (1)	HIRS	single	25ml	Absence in 25g	10	0	1	2	2	
Cheeses made from cows' milk										
soft and semi-soft	HIRS	single	25g	Absence in 25g	40			0	0	

(1) : from countryside tourism

Table Listeria monocytogenes in other foods

	Source of information	Sampling unit	Sample weight	Definition used	Units tested	≤100 cfu/g	>100 cfu/g	Total units positive for L.monocytogenes	Listeria monocytogenes presence in x g
Fish									
smoked (1)	HIRS	single	25g	Absence in 25g	20			0	0
Other processed food products and prepared dishes									
unspecified	HIRS	single	25g	Absence in 25g	403			9	9
ices and similar frozen desserts	HIRS	single	25g	Absence in 25g	237			0	0
Sweets	HIRS	single	25g	Absence in 25g	265			3	3
Sprouted seeds	HIRS	single	25g	Absence in 25g	45			2	2
Fruits									
pre-cut									
ready-to-eat	HIRS	single	25g	Absence in 25g	67			2	2
Fruits and vegetables									
precut									
ready-to-eat (2)	HIRS	single	25g	Absence in 25g	60			1	1
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos)									
fresh									
chilled (3)	HIRS	single	25g	Absence in 25g	51	6	0	6	6
minced meat									
intended to be eaten									
cooked									
chilled (4)	HIRS	single	25g	Absence in 25g	101	32	9	41	41
meat products									
fermented sausages	HIRS	single	25g	Absence in 25g	54			0	0
Vegetables									
products (5)	HIRS	single	25g	Absence in 25g	42			0	0

(1) : prepacked

(2) : prepacked vegetables only

(3) : prepacked

(4) : prepacked

(5) : vegetables in oil

2.3.3. Listeria in animals

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

Human cases are notifiable by national Law on Infectious Diseases (official Gazette number 68/95).

Medical doctors, laboratories are obliged to notify cases on daily basis to local institutes of public health. Local institutes of public health notify disease to Institute of Public Health of R. Slovenia.

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

The real burden of infection is not known.

According to notifications of real VTEC (laboratory confirmed cases), infection is currently not a problem.

2.4.2. Escherichia coli, pathogenic in foodstuffs

A. Verotoxigenic E. coli (VTEC) in food - Meat from bovine animals

Monitoring system

Sampling strategy

Bovine meat sampling is carried out in all the registered cutting plants of industrial type (EU-approved). A meat sample constitutes an epidemiological unit. Sampling is carried out by official veterinarians.

HIRS

At retail

Annual monitoring programme was prepared with respect to the results of programme/controls carried out in the previous year, epidemiological situation, Commission Recommendation concerning a coordinated programme for the official control of foodstuffs.

The majority of samples were taken in cities with 10000 inhabitants or more and number of samples taken was proportional with the population in the region.

There were taken at the retail level where sampling could give an overview over the situation.

Sampling carried out by health inspectors.

Frequency of the sampling

At cutting plants, 1 meat sample is taken every 2 months.

HIRS

Sampling takes place during the months from February to September.

Type of specimen taken

Meat

Methods of sampling (description of sampling techniques)

A meat sample weighing 300-500 g is removed by a sterile instrument and stored in a sterile bag in a case the sample is not prepacked.

Samples must be delivered to the laboratory in the shortest possible time, and normally, immediately upon sampling, i.e. within the same day. During transport, samples must be chilled to +4 °C. Analyses should commence in the shortest possible time after sampling.

Definition of positive finding

Positive sample means a sample, where the zoonotic agent has been isolated from. Isolation of zoonotic agent in 25g.

Diagnostic/analytical methods used

Bacteriological test:

ISO 16654: 2001

Preventive measures in place

GMP, GHP, HACCP

Measures in case of the positive findings or single cases

HIRS

Additional sampling was carried out and other necessary enforcement actions.

Notification system in place

VARS Regional Offices must report to VARS Main Office on a monthly basis regarding the monitoring programme implementation and control results.

HIRS

Whenever zoonotic agent-VTEC is detected in samples taken, relevant authorities must be informed.

Results of the investigation

In 2005, VTEC O:157 was detected in 6 bovine meat samples (5.9 %) of 101 samples taken.

HIRS

A total 152 samples (minced meat-101 sample, fresh prepacked red meat-51 sample) were taken at restaurants, retail and catering. VTEC was not detected from any sample.

B. Verotoxigenic E. coli (VTEC) in food - Fruits and vegetables

Monitoring system

Sampling strategy

Annual monitoring programme was prepared with respect to the results of programme/controls carried out in the previous year, epidemiological situation, Commission Recommendation concerning a coordinated programme for the official control of foodstuffs.

The majority of samples were taken in cities with 10000 inhabitants or more and number of samples taken was proportional with the population in the region.

There were taken at the retail level where sampling could give an overview over the situation.

Sampling carried out by health inspectors. 112 samples were taken in last year.

By programme: 80 samples of vegetables and 30 samples of cut fruit.

Frequency of the sampling

Sampling takes place during the months from February to September.

Methods of sampling (description of sampling techniques)

A sample weighing approximately 300 - 500 g is stored in sterile bag in case the sample is not pre-packaged. Samples must be delivered to the laboratory in the shortest time possible, and normally, immediately upon sampling. The period of time elapsing from sampling to analysis shall by no means exceed 24 hours. The transportation must be done

not over +4 oC.

Definition of positive finding

A sample from which VTEC has been isolated.

Diagnostic/analytical methods used

Biological method: ISO 16654:2001

Confirmation VT1 and VT2:RPLA test

Preventive measures in place

GHP, HACCP

Notification system in place

Whenever zoonotic agent-VTEC is detected in samples taken, relevant authorities must be informed.

Results of the investigation

A total 112 (precut fruits and sprout seeds) samples were taken at restaurants, retail and catering in year 2005. VTEC was not detected from any sample.

Table VT E.coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Escherichia coli, pathogenic	E. coli spp., unspecified	Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC O157:H7
Meat from bovine animals									
- at cutting plant - Monitoring - official sampling - objective sampling	VARS	single	25g	101	6			6	
Fruits									
pre-cut									
ready-to-eat	HIRS	single	25g	67	0				
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos)									
minced meat									
intended to be eaten cooked									
chilled (1)	HIRS	single	25g	101	0				
fresh									
chilled (2)	HIRS	single	25g	51	0				
Sprouted seeds									
ready-to-eat	HIRS	single	25g	45	0				

(1) : prepacked

(2) : prepacked

2.4.3. Escherichia coli, pathogenic in animals

A. Verotoxigenic Escherichia coli in cattle (bovine animals)

Monitoring system

Sampling strategy

Sampling is carried out continually throughout the year at all the registered bovine slaughterhouses. Sampled are animals raised in the Republic of Slovenia only.

One slaughter animal constitutes an epidemiological unit.

Sampling is carried out by the slaughterhouse official veterinarians

Frequency of the sampling

Animals at slaughter (herd based approach)

Other: One (1) animal per month - 1 sample is sampled at slaughter establishments.

Type of specimen taken

Animals at slaughter (herd based approach)

Faeces

Methods of sampling (description of sampling techniques)

Animals at slaughter (herd based approach)

Faeces sample is taken prior to slaughter, and after slaughter, following the evisceration, the intestinal wall is aseptically opened and the intestinal content removed from the intestines and stored in a sterile plastic bag.

Samples must be delivered to the laboratory in the shortest possible time, and normally, immediately upon sampling, i.e. within the same day. During transport, samples must be chilled to +4 °C. Analyses should commence in the shortest possible time after sampling.

Case definition

Animals at slaughter (herd based approach)

Positive animal means an animal, where a positive sample has been taken from. Positive sample means a sample, where the zoonotic agent has been isolated from.

Diagnostic/analytical methods used

Animals at slaughter (herd based approach)

Bacteriological method: ISO 16654:2001

Other preventive measures than vaccination in place

Persons, who in carrying out a registered activity of breeding or production come into direct contact with animals, foodstuffs, raw materials, products or waste, must have thorough knowledge in contagious animal diseases, the prevention thereof and transmissibility to man, and in the regulations governing the protection against contagious diseases.

Animal holders must carry out preventive measures as for instance: providing potable water and feed that are fit for consumption; providing and maintaining the required conditions of hygiene in the animal breeding and auxiliary facilities; preventing the introduction into the breeding facilities of disease agents; implementing veterinary measures in the intensive animal rearing technology; handling as prescribed the animal carcasses and other waste, waste waters, faeces and urine; providing for the preventive disinfection, disinsectisation and deratisation (DDD) in the facilities, on public surfaces and in the means of transport.

Notification system in place

VARS Regional Offices must report to VARS Main Office on a monthly basis regarding the monitoring programme implementation and control results.

Results of the investigation

In 2005, VTEC O:157 was detected in 12 samples (5.3 %) of 226 samples taken.

Table VT E.coli in animals

	Source of information	Sampling unit	Units tested	Total units positive for Escherichia coli, pathogenic	E. coli spp., unspecified	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC O157:H7
Cattle (bovine animals)							
- at slaughterhouse - animal sample - faeces - Monitoring - official sampling - objective sampling	VARs	animal	226	12		12	

2.5. TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1. General evaluation of the national situation

A. Tuberculosis General evaluation

History of the disease and/or infection in the country

Humans

Registry of TBC cases of Slovenia was founded in 1954 and has been functioning since then in Hospital in Golnik.

It is updated regularly. In 1995 it was updated -reorganized according to demands of WHO and Euro TB.

In Slovenia there are no human cases of *M. bovis*.

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

Since year 2000 the annual incidence of TBC in Slovenia was lower than 20/100 000 inhabitants.

About 75% of cases are autochthonous, 25% imported.

Imported cases were until recently mostly from Balkan, in last years also from Baltic countries, Czech republic, Slovakia, Romania, Moldova etc.

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

Tbc is not relevant as zoonotic disease.

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

The request for the recognition of status of the entire country was submitted on October 22nd 2004.

Monitoring system

Sampling strategy

All animals over 6 weeks of age, compulsory post- mortem examination of all bovines at slaughter.

Frequency of the sampling

Interval between routine tuberculin test: every two years

Methods of sampling (description of sampling techniques)

Intradermal TB testing accordance with Council Directive 64/432/EEC.

Diagnostic/analytical methods used

Diagnostic procedures

Mycobacterium bovis shall be confirmed by:

1. direct microscopic examination of smears of suspect tissues (Ziehl-Neelsen staining, auramine-rodamine staining),
2. detecting the characteristic pathohistological changes in the modified tissues (caseous necroses, epitheloid macrophages, giant cells),
3. immunoperoxidase technique,
4. investigation on cell culture:
 - a. homogenisation, decontamination and concentration of material under examination, cultivation, and selective cell cultures (Lowenstein/Jensen, Stonebrink, Middlebrook 7H10 or 11, MGIT or Middlebrook 7H12),
 - b. cell cultures must be incubated for a minimum of 8 weeks (in the interim, the sediment shall be kept at -20°C),
 - c. isolate determination is carried out on the basis of the physical and biochemical characteristics, and on the basis of the characteristics of the nucleic acids,
 - d. strain typing is possible by the method of spoligotyping or by the RFLP method,
5. detection of the presence of characteristic nucleic acids:
 - a. by the PCR method (AMPLICOR, detection IS6110 or 16s rRNA)
 - b. by the TMA method (GEN-PROBE).

TB diagnostics in live animals is based on tuberculin tests.

Tuberculin tests must be carried out in accordance with the Regulation No. 1226/2002/EC, which is in compliance with the OIE "Manual of standards for diagnostic

tests and vaccines, 4th edition, 2000".

Under Regulation No. 1226/2002/EC, the maximum number of contaminated animals may also be determined on the basis of the gamma interferon test, as detailed in the OIE "Manual of standards for diagnostic tests and vaccines, 4th edition, 2000".

In the NVI Laboratory of Bacteriology and Mycology, the methods are used that are indicated under items 1, 4a, b, c and 5 above. NVI Lab. is planning to introduce the typing of the *M. bovis* strains, or to cooperate with the reference laboratories that are carrying it out. At the same time, NVI Lab. intends to follow the new methods in the diagnostics, in particular in the field of confirmation of nucleic acids, and to simultaneously develop new methods on the basis of the quantitative PCR technique.

In 2005, NVI Lab. intends to apply for accreditation.

Measures in case of the positive findings or single cases

Measures at suspected presence of TB

When upon a sensitisation test with the bovine tuberculin TB is suspected in animals, the following measures shall apply:

- prohibiting the issuing of animal health certificates,
- listing all suspect animals,
- isolating animals,
- restricting the procreation of animals,
- banning the trade in milk and milk products,
- prohibiting the removal of animal feed,
- prohibiting the removal of manure,
- ordering the compulsory packaging of manure for at least 21 days,
- prohibiting the use of common watering points,
- carrying out tests with the bovine and avian tuberculins at the holding, and repeating the tests upon 6 weeks .

In case of a positive reaction to the repeated test, the animal shall be intended for slaughter, the viscera thereof shall be removed and submitted for investigation to the authorised laboratory.

When at slaughter the presence of TB is suspected in the bovine animals, the modified viscera shall be submitted for investigation to the authorised laboratory. The meat of slaughtered animals shall be assessed by the official veterinarian as unfit for human consumption, when changes are identified on several organs or parts of carcass, when increased temperature has been established in the animal prior to slaughter, and when upon slaughter TB-characteristic changes have been established. When TB-characteristic changes are localised on some organs or parts of carcass and pertaining lymph nodes, only the affected parts of carcass or organs with the pertaining lymph nodes shall be considered unfit for human consumption.

Measures at confirmed presence of TB:

Epizootiological investigation shall be carried out.

The following measures shall apply at the holding, where TB has been detected:

- slaughter of contaminated bovine animals at least within 30 days upon detection,
- cleaning and disinfection of stables, farmyard, watering points and other places, where the suspect or diseased animals have been kept, as well as of items and installations that have been in contact with such animals,
- other measures to sanitise the holding.

The official veterinarian at the slaughterhouse shall enter the data on the slaughtered animal in the CRBA, cancelling it from the register.

Cessation of disease:

It shall be considered that the disease has ceased, when all the measures required have been carried out, and when the next simultaneous tuberculin test upon at least 6 weeks has shown negative results in all animals at the holding.

The expenses for diagnostic testing are covered from the budget as well as compensation for culled animals (Rules on the compensations in the veterinary field - Ur. l. RS. st. 37/02). Other expenses for the sanitation of the herd are on the owner of the animals.

Notification system in place

Veterinary Practice Act (Ur. l. RS, st. 33/01, 45/04) provides a general classification of the contagious animal diseases, in relation to which the general and specific preventive measures need to be implemented, and other measures prescribed in the Act, into the Groups A, B and C, in accordance with the OIE International Animal Health Code, and in accordance with the relevant epizootiological situation.

The classification is detailed in the Rules on the contagious animal diseases (Ur. l. RS, st. 54/02, 63/03 in 28/04), where TB is classified among the compulsorily notifiable animal diseases.

In the case of an outbreak of contagious animal disease or when signs of disease have been established, constituting reasonable doubt that an animal has taken ill with or died of a contagious disease, the holder of the animal in question must immediately and in the prescribed way notify thereof the veterinary organisation (Veterinary Practice Act, Article 12, point 1).

In the case of a suspected presence of TB, the relevant veterinary organisation shall notify thereof the Regional Office of the VARS, which shall perform all the necessary measures to prevent the possible spread of the disease.

A report on the outbreak of disease shall be prepared once a month by the tenth day in the month, for the past month and sent to the VARS HQ.

In the case of a zoonosis, the official veterinarian shall notify of the suspected presence of disease also the competent public health services.

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

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 examinations	Number of animals detected positive in bacteriological examination
	Herds	Animals	Number of herds	%	Number of herds	%	Interval between routine tuberculin tests	Number of animals tested			
SLOVENIJA	44123	478511	44122		1				1	1	
Total	44123	478511	44122	0	1	0	0	0	1		1

Footnote

officially free herds: 99,998%

infected herds: 0,002%

Interval between routine tuberculin tests: c

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

Human cases of brucellosis are notifiable by National law on infectious diseases (Official Gazette number 68/1995).

Medical doctors, laboratories are obliged to notify cases on daily basis to local institutes of public health. Local institutes of public health notify disease to Institute of Public Health of R. Slovenia.

Brucellosis in Slovenia is notifiable for more than 50 years.

Human infections were generally alimentary and between 1945 and

1954 549 cases were registered in littoral Slovenia (Slovensko Primorje) alone.

Brucellosis in bovine animals was eradicated in 1961. The disease in goat has been eradicated already in 1955.

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

Human brucellosis has been not considered as epidemiological problem for a long time.

The danger of reimportation of disease still exists.

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

Source of infection was in most cases milk, cheese, and milk products.

Recent actions taken to control the zoonoses

Epidemiological and laboratory investigation of all suspected cases.

Suggestions to the Community for the actions to be taken

None

2.6.2. Brucella in foodstuffs

2.6.3. Brucella in animals

A. Brucella abortus in Bovine Animals

Monitoring system

Sampling strategy

All animals over 12 months of age.

Frequency of the sampling

Yearly

Type of specimen taken

Blood

Vaccination policy

Vaccination prohibited

Measures in case of the positive findings or single cases

Instructions on the detection, prevention and eradication of brucellosis (Ur. l. RS, st. 30/99)

Measures at suspected presence of brucellosis

At suspected presence of brucellosis, the authorised veterinary organisation shall immediately confirm or reverse the suspicion, and immediately notify thereof the relevant Regional Office of the VARS, and the NVI. Measures to be implemented at suspect holding include:

- laboratory examination of carcasses and blood samples;
- epidemiological investigation;
- harmless disposal of dead animals
- quarantine of the infected holding
- census of all animals on the holding, susceptible for the disease, affected, suspected to be infected and dead; census shall be up to date, all newborn animals, and animals died during the infection have to be registered;
- isolation of animals susceptible for the disease,
- ban on movement of susceptible animals inside the holding, taking into account possible vectors of the disease;
- ban on movement on and from the holding;
- ban on movement of all animals and stuff by which the disease can be transmitted;

The same measures can be introduced also for the holdings, which are suspected to be infected.

Measures at confirmed presence of brucellosis

Once brucellosis is officially confirmed the following measures are introduced (beside the above mentioned):

- ban on trade with animals, animal products, b-products, waste, feeding stuff and all other stuff by which the disease can be transmitted;
- slaughter of infected cattle;

- harmless disposal of dead and culled animals, aborted foetuses, placentas and ovarian fluids;
- harmless disposal of waste, manure, litter, by which the disease can be transmitted;
- testing of all susceptible animals on the holding;
- ban on use of milk from the infected holding;
- ban on use of animals from the infected holding in breeding purposes;
- DDD;

The same measures can be introduced also for the holdings, which are suspected to be infected.

Cessation of disease

It shall be considered that the disease has ceased, when the serological investigation of animals upon three examinations in an interval of 3 months has shown negative results, and when all the prescribed measures have been implemented.

Procedures applicable to the fresh meat and viscera

The meat and viscera of seropositive or suspect animals shall not be fit for human consumption, when pathoanatomical changes have established and the agent of disease has been confirmed. When pathoanatomical changes have not been established and the agent of disease has not been confirmed, the udder, blood and genital organs shall not be fit for human consumption.

Notification system in place

In 1995, bovine brucellosis was classified among the contagious diseases under the then applicable Veterinary Practice Act, prescribing the implementation of the general and specific measures. These measures included also the compulsory notification in case of a suspected presence of brucellosis.

The new Veterinary Practice Act (Ur. l. RS, st. 33/01, 45/04) provides a general classification of the contagious animal diseases, in relation to which the general and specific preventive measures need to be implemented, and other measures prescribed in the Act, into the Groups A, B and C, in accordance with the OIE International Animal Health Code, and in accordance with the relevant epizootiological situation.

The classification is detailed in the Rules on the contagious animal diseases (Ur. l. RS, st. 54/02, 63/03 in 28/04), where bovine brucellosis is classified among the compulsorily notifiable contagious animal diseases. In case of an outbreak of contagious animal disease or when signs of disease have been established, constituting reasonable doubt that an animal has taken ill with or died of a contagious disease, the holder of the animal in question must immediately and in the prescribed way notify thereof the veterinary organisation (Veterinary Practice Act, Article 12, point 1).

In case of a suspected presence of bovine brucellosis, the relevant veterinary organisation shall notify thereof the Regional Office of the VARS only when the disease has been confirmed by the result of diagnostic investigation. A report on the outbreak of disease shall be prepared once a month by the tenth day in the month, for the past month.

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

Brucellosis was eradicated in 1961.

B. Brucella melitensis in Goat

Status as officially free of caprine brucellosis during the reporting year

The entire country free

Brucellosis was eradicated in 1961.

Monitoring system

Sampling strategy

All holdings with more than 10 animals, animals older than 6 months, random sampling; the sampling plan is a part of a regular monitoring system.

Type of specimen taken

Blood

Diagnostic/analytical methods used

- Rose Bengal test - screening test
- Complement fixation test - confirmatory test

Vaccination policy

Vaccination forbidden

Measures in case of the positive findings or single cases

Measures at suspected presence of brucellosis

At suspected presence of brucellosis, the authorised veterinary organisation shall immediately confirm or reverse the suspicion, and immediately notify thereof the relevant Regional Office of the VARS, and the NVI. Measures to be implemented at suspect holding include:

- laboratory examination of carcasses and blood samples;
- epidemiological investigation;
- harmless disposal of dead animals;
- quarantine of the infected holding
- census of all animals on the holding, susceptible for the disease, affected, suspected to be infected and dead; census shall be up to date, all newborn animals, and animals died during the infection have to be registered;
- isolation of animals susceptible for the disease,
- ban on movement of susceptible animals inside the holding, taking into account possible vectors of the disease;
- ban on movement on and from the holding;
- ban on movement of all animals and stuff by which the disease can be transmitted;

The same measures can be introduced also for the holdings, which are suspected to be infected.

Measures at confirmed presence of brucellosis

Once brucellosis is officially confirmed the following measures are introduced (beside the above mentioned):

- ban on trade with animals, animal products, b-products, waste, feeding stuff and all other stuff by which the disease can be transmitted;
- slaughter of infected cattle;
- harmless disposal of dead and culled animals, aborted fetuses, placentas and ovarian fluids;
- harmless disposal of waste, manure, litter, by which the disease can be transmitted;
- testing of all susceptible animals on the holding;

- ban on use of milk from the infected holding;
- ban on use of animals from the infected holding in breeding purposes;
- DDD;

The same measures can be introduced also for the holdings, which are suspected to be infected.
Cessation of disease

It shall be considered that the disease has ceased, when the serological investigation of animals upon three examinations in an interval of 3 months has shown negative results, and when all the prescribed measures have been implemented.

Procedures applicable to the fresh meat and viscera

The meat and viscera of seropositive or suspect animals shall not be fit for human consumption, when pathoanatomical changes have established and the agent of disease has been confirmed.

When pathoanatomical changes have not been established and the agent of disease has not been confirmed, the udder, blood and genital organs shall not be fit for human consumption.

Notification system in place

The Veterinary Practice Act (UL RS 33/01 and 45/04) provides a general classification of the contagious animal diseases, in relation to which the general and specific preventive measures need to be implemented, and other measures prescribed in the Act, into the Groups A, B and C, in accordance with the OIE International Animal Health Code, and in accordance with the relevant epizootiological situation.

The classification is detailed in the Rules on the contagious animal diseases (UL RS 54/02, 63/03 and 28/04), where brucellosis in ovine and caprine animals is classified among the compulsorily notifiable contagious animal diseases. In the case of an outbreak of contagious animal disease or when signs of disease have been established, constituting reasonable doubt that an animal has taken ill with or died of a contagious disease, the holder of the animal in question must immediately and in the prescribed way notify thereof the veterinary organisation (Veterinary Practice Act, Article 12, point 1).

In the case of a suspected presence of brucellosis, the relevant veterinary organisation shall notify thereof the Regional Office of the VARS, which shall perform all the necessary measures to prevent the possible spread of the disease.

A report on the outbreak of disease shall be prepared once a month by the tenth day in the month, for the past month.

In the case of zoonosis, the official veterinarian shall notify of the suspected presence of disease also the competent public health services.

Additional information

The disease has been eradicated already in 1955. Ever since the compulsory monitoring programme has been in place.

According to EU legislation the request for recognition of OF status of the country was submitted in autumn 2004.

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance				Investigations of suspect cases								
							Serological tests		Examination of bulk milk samples		Information about abortions		Epidemiological investigation						
	Herds	Animals	Number of herds	%	Number of herds	%	Number of bovine herds tested	Number of animals tested	Number of infected herds tested	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 positive animals	Number of positive animals examined microscopically	Number of positive animals examined serologically
SLOVENIJA	44123	478511	44123	100	0	0	42528	314520	0		149	0	0	0	0	5	0	0	8
	44123	478511	44123	100	0	0	42528	314520	0	0	149	0	0	0	0	5	0	0	8
Total																			

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

Region	Total number of existing ovine / caprine		Officially free herds		Infected herds		Surveillance			Investigations of suspect cases					
	Herds	Animals	Number of herds	%	Number of animals	%	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	
SLOVENIJA	8563	143966	8563	100	0	0	2992	32930	0	0	0	0	0	0	
	8563	143966	8563	100	0	0	2992	32930	0	0	0	0	0	0	

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 rarely reported in Slovenia.

The average number of yearly notifications in last five years was 52 or average incidence, based on notifications, was cca 2,6/100 000 inhabitants.

From 1990 to 1999 the number of yearly notifications were low as well, except in 1995, the number of notifications increased to 1092 or incidence, based on notifications, was cca 54/ 100 000 inhabitants.

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

Yersinia enterocolitica is notifiable by national Law on Infectious diseases. Medical doctors notify cases on daily basis to local institutes of public health. Local institutes of public health notify disease to Institute of Public Health of R. Slovenia. Notification since 1977.

2.7.2. Yersinia in foodstuffs

2.7.3. Yersinia in animals

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

Human cases are notifiable by National Law on Infectious Diseases (official Gazette number 68/1995).

Medical doctors are obliged to notify cases on daily basis to local institutes of public health. Local institutes of public health notify disease to Institute of Public Health of R. Slovenia. Notification since 1977.

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

Trichinellosis is a rare human disease in Slovenia. No one case was notified in 2004 and 05.

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

Trichinellosis is a rare zoonosis in Slovenia.

No human cases were recorded in last years, also 2005.

Most of sporadic cases in last 20 years were infected because of ingestion of imported meat.

2.8.2. Trichinella in animals

A. Trichinella in pigs

Monitoring system

Sampling strategy

General

The disease, or the larval stage of the agent of disease, is monitored within the scope of compulsory veterinary ante- and post-mortem examination of animals at slaughter.

Fresh meat of all porcine animals is systematically inspected for *Trichinella* at slaughterhouses. Likewise, any holder of a tourist farm activity must provide for the inspection of meat obtained from the on-farm slaughtered porcine animals for the presence of larvae. Epidemiological unit is the animal.

Frequency of the sampling

General

All porcine animals slaughtered are subjected to inspection - either at registered slaughterhouses or at tourist farms.

Type of specimen taken

General

In meat inspection accordance with Council Directive 77/96/EEC: Annex I: Trichinoscopy - the compression method, the artificial digestion method; samples are taken from the diaphragm, from the lingual muscle or the jaw muscle or from the abdominal muscles, as appropriate.

Methods of sampling (description of sampling techniques)

General

The methods used in meat inspection are laid down in Council Directives 91/497/EEC and 77/96/EEC.

Case definition

General

The disease shall be considered officially confirmed by identifying the agent of disease; in the opposite case it shall be considered that the disease has officially been ruled out.

Positive animal - animal where *Trichinella* spp. has been detected.

Diagnostic/analytical methods used

General

Methods specified and described on Council Directives 64/433 EEC and 77/96/EEC:

- the magnetic stirrer method for pooled sample digestion
- trichinoscopic examination

Preventive measures in place

Persons, who in carrying out a registered activity of breeding or production come into direct contact with animals, foodstuffs, raw materials, products or waste, must have thorough knowledge in contagious animal diseases, the prevention thereof and transmissibility to man, and in the regulations governing the protection against contagious diseases.

Animal holders must carry out preventive measures as for instance: providing potable water and feed that are fit for consumption; providing and maintaining the required conditions of hygiene in the animal breeding and auxiliary facilities; preventing the introduction into the breeding facilities of disease agents; implementing veterinary measures in the intensive animal rearing technology; handling as prescribed the animal carcasses and other waste, waste waters, faeces and urine; providing for the preventive disinfection, disinsectisation and deratisation (DDD) in the facilities, on public surfaces and in the means of transport.

Control program/mechanisms

The control program/strategies in place

National control programme is carried out in accordance with the national legislation, on the basis of the Rules on examination for trichinae and meat freezing procedure in order to destroy trichinae (transposing Council Directive 77/96/EEC), the Rules on conditions for production and processing the foodstuffs of animal origin at the farm for direct sale to the ultimate consumer, and the Instructions on measures for the detection, prevention and suppression of trichinellosis. The control programme envisages inter alia as follows:

Holder of a tourist farm activity shall at least 48 hours prior to slaughtering porcine animals notify an official veterinarian of the relevant Regional Office of VARS, who shall carry out the ante-mortem examination of animals prior to slaughter and a post-mortem examination of the meat upon slaughter. Holder of activity shall provide for the examination of porcine meat for the presence of trichinae.

Where the meat is intended for placing on the market it shall be ensured that the fresh meat, in case it has not been examined for trichinae in accordance with Annex I to Directive 77/96/EEC, is subjected to freezing process.

In case of a suspected presence of disease, the disease shall be confirmed or ruled out.

Measures for the detection, prevention and suppression of disease.

Measures in case of the positive findings or single cases

At the infected holding there shall be:

- instituted an epizootiological investigation;
- provided and maintained the required conditions of hygiene in the facilities;
- banned the trade in and movements of animals, except for slaughter and provided that the health certificate includes an indication that the holding is suspected of being infected by trichinellosis;

- provided that the meat and parts of trichinae-infested animals do not come into contact with humans and animals, and shall be harmlessly destroyed;
- instituted the compulsory examination for trichinae of all on-farm slaughtered animals;
- carried out the DDD and other measures in order to sanitise the infected holding.

Measures shall be instituted at the infected holding as long as the final DDD measures have not been carried out.

Meat of the trichinae-infested animals shall be assessed as unfit for human consumption.

Notification system in place

In case of disease, the veterinary organisation must notify the Regional Office of VARS, within the area of which the disease has been diagnosed. The report on the occurrence of disease is to be submitted on a monthly basis by the tenth day in a month for the previous month.

The authorised laboratory submits the diagnostic test results to the relevant Regional Office of VARS, and to the consigner of samples.

Once a month and no later than the 20th day in the month, the authorised laboratories and Regional Offices of VARS must report on the diagnostic test results to the Office for Contagious Animal Diseases within VARS.

The Main Office of VARS collects the results of ante- and post-mortem examinations conducted by the official veterinarians, and applies them in relation to the diagnoses of diseases communicable to man.

Where a case of disease is established, the data on the case are reported as soon as possible to the veterinary organisation, duly licensed in accordance with the act governing the veterinary sector, which is supervising the herd of origin of the affected animal.

This method of reporting is carried out in accordance with the provisions of the Rules on contagious animal diseases (applicable since 2002), and the reporting as such has been compulsory since 1996.

Results of the investigation including description of the positive cases and the verification of the *Trichinella* species

In 2005, no case of trichinellosis in porcine animals was confirmed.

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

The last case of trichinellosis was confirmed in 1989. According to data, the positive animal was not of Slovenian origin.

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

In Slovenia, taking into account the findings in porcine animals, the possibility of transmission of the disease to humans is negligible.

B. *Trichinella* in horses

Monitoring system

Sampling strategy

The disease, or the larval stage of the agent of disease, is monitored within the scope of compulsory veterinary ante- and post-mortem examination of animals at slaughter. Systematic examinations for trichinae of the fresh meat of equidae are carried out at slaughterhouses. Epidemiological unit is the animal.

Frequency of the sampling

Examination is carried out on all equidae slaughtered at the registered slaughterhouses.

Type of specimen taken

In meat inspection accordance with Council Directive 77/96/EEC: Annex I: Trichinostomy - the compression method, the artificial digestion method; samples are taken from the diaphragm, from the lingual muscle or the jaw muscle or from the abdominal muscles, as appropriate.

Methods of sampling (description of sampling techniques)

The methods used in meat inspection are laid down in Council Directives 91/497/EEC and 77/96/EEC.

Case definition

The disease shall be considered officially confirmed by identifying the agent of disease; in the opposite case it shall be considered that the disease has officially been ruled out. Positive animal - animal where *Trichinella* spp. has been detected.

Diagnostic/analytical methods used

Methods specified and described on Council Directives 64/433 EEC and 77/96/EEC:

- the magnetic stirrer method for pooled sample digestion
- trichinostopic examination

Results of the investigation including the origin of the positive animals

In 2005, no case of trichinellosis in equidae was confirmed

Control program/mechanisms

The control program/strategies in place

National control programme is carried out in accordance with the national legislation, on the basis of the Rules on examination for trichinae and meat freezing procedure in order to destroy trichinae (transposing Council Directive 77/96/EEC), the Rules on conditions for production and processing the foodstuffs of animal origin at the farm for direct sale to the ultimate consumer, and the Instructions on measures for the detection, prevention and suppression of trichinellosis. The control programme envisages inter alia as follows: Holder of a tourist farm activity shall at least 48 hours prior to slaughtering porcine animals notify an official veterinarian of the relevant Regional Office of VARS, who shall carry out the ante-mortem examination of animals prior to slaughter and a post-mortem examination of the meat upon slaughter. Holder of activity shall provide for

the examination of porcine meat for the presence of trichinae.

Where the meat is intended for placing on the market it shall be ensured that the fresh meat, in case it has not been examined for trichinae in accordance with Annex I to Directive 77/96/EEC, is subjected to freezing process.

In case of a suspected presence of disease, the disease shall be confirmed or ruled out.

Measures for the detection, prevention and suppression of disease.

Measures in case of the positive findings or single cases

At the infected holding there shall be:

- instituted an epizootiological investigation;
- provided and maintained the required conditions of hygiene in the facilities;
- banned the trade in and movements of animals, except for slaughter and provided that the health certificate includes an indication that the holding is suspected of being infected by trichinellosis;
- provided that the meat and parts of trichinae-infested animals do not come into contact with humans and animals, and shall be harmlessly destroyed;
- instituted the compulsory examination for trichinae of all on-farm slaughtered animals;
- carried out the DDD and other measures in order to sanitise the infected holding.

Measures shall be instituted at the infected holding as long as the final DDD measures have not been carried out.

Meat of the trichinae-infested animals shall be assessed as unfit for human consumption.

Notification system in place

In case of disease, the veterinary organisation must notify the Regional Office of VARS, within the area of which the disease has been diagnosed. The report on the occurrence of disease is to be submitted on a monthly basis by the tenth day in a month for the previous month.

The authorised laboratory submits the diagnostic test results to the relevant Regional Office of VARS, and to the consigner of samples.

Once a month and no later than the 20th day in the month, the authorised laboratories and Regional Offices of VARS must report on the diagnostic test results to the Office for Contagious Animal Diseases within VARS.

The Main Office of VARS collects the results of ante- and post-mortem examinations conducted by the official veterinarians, and applies them in relation to the diagnoses of diseases communicable to man.

Where a case of disease is established, the data on the case are reported as soon as possible to the veterinary organisation, duly licensed in accordance with the act governing the veterinary sector, which is supervising the herd of origin of the affected animal.

This method of reporting is carried out in accordance with the provisions of the Rules on contagious animal diseases (applicable since 2002), and the reporting as such has been compulsory since 1996.

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

In the past 16 years in Slovenia, no case of trichinellosis in equidae has been confirmed.

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

In Slovenia, taking into account the findings in equidae, the possibility of transmission of the disease to humans is negligible.

C. Trichinella spp., unspecified in animal - Wild animals

Monitoring system

Sampling strategy

The disease, or the larval stage of the agent of disease, is monitored within the scope of compulsory veterinary post-mortem examination of killed wild game.

Frequency of the sampling

Compulsory is the examination of wild boars and other animals, which may be carriers of trichinae and the meat whereof is intended for public consumption.

Type of specimen taken

In meat inspection accordance with Council Directive 77/96/EEC: Annex I: samples are taken from the diaphragm, from the lingual muscle or the jaw muscle or from the abdominal muscles, as appropriate.

Methods of sampling (description of sampling techniques)

The methods used in meat inspection are laid down in Council Directive 77/96/EEC.

Case definition

The disease shall be considered officially confirmed by identifying the agent of disease; in the opposite case it shall be considered that the disease has officially been ruled out. Positive animal - animal where *Trichinella* spp. has been detected.

Diagnostic/analytical methods used

Methods specified and described in 77/96/EEC:

- the magnetic stirrer method for pooled sample digestion
- trichinoscopic examination

Control program/mechanisms

The control program/strategies in place

National control programme is carried out in accordance with the national legislation, on the basis of the Rules on examination for trichinae and meat freezing procedure in order to destroy trichinae (transposing Council Directive 77/96/EEC), and the Rules on conditions for the collection of killed wild game, veterinary inspection, production of meat and placing on the market of the meat of killed wild game. The control programme envisages inter alia as follows:

Wild game or wild game meat may be placed on the market only after the killed animals have visually been inspected by the official veterinarian and where the meat has been obtained from wild game that has been subjected to a post-mortem examination

(compulsory examination for trichinae) carried out by an official veterinarian, or by a hunter acting as the veterinary auxiliary and supervised by the official veterinarian. In case of a suspected presence of disease, the disease shall be confirmed or ruled out. VARS shall monitor the possible detection of contagious diseases in the individual hunting grounds. In case of detecting a contagious disease, measures appropriate to the type of disease shall be taken.

Measures in case of the positive findings or single cases

Meat of the trichinae-infested animals shall be assessed as unfit for human consumption.

Notification system in place

Where a zoonosis is detected in wild game, the official veterinarian must notify thereof the relevant Regional Office of VARS that is supervising the hunting ground of killing the particular wild animal, and that Regional Office must take the appropriate measures as prescribed.

Results of the investigation including the origin of the positive animals

In 2005, no case of trichinellosis in wild animals was confirmed.

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

The last case of trichinellosis prior to 2004 was confirmed in a wild boar in 1996. According to data, the positive animal was not of Slovenian origin.

In 1998, a single positive case was detected in a wild animal. No positive cases were detected in the period 1999-2003. In 2004, trichinellosis was detected in a single animal.

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

In Slovenia, taking into account the findings in animals, the possibility of transmission of the disease to humans is negligible.

Table Trichinella in animals

	Source of information	Sampling unit	Units tested	Total animals positive for Trichinella	T. spiralis	Trichinella spp., unspecified
Pigs	VARs	animal	421175	0		
Solipeds, domestic						
horses	VARs	animal	1651	0		
Wild boars						
wild	VARs	animal	1421	0		
Bears	VARs	animal	37	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

According to notifications it is a rare disease in Slovenia.

From 1990 to 2005 from 0 to 8 cases yearly have been reported.

Most of cases in last years were imported from Balkan countries.

Animals

Hydatid cysts are detected from time to time by the compulsory ante- and post-mortem examinations at slaughterhouses.

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

A rare zoonosis. Infections are mostly imported.

2.9.2. Echinococcus in animals

A. Echinococcus spp., unspecified in animal

Monitoring system

Sampling strategy

Monitored are all slaughter animals and wild game intended for human consumption, and examined by the official veterinarians at slaughterhouses or wild game processing houses within the scope of the compulsory veterinary ante- and/or post-mortem examination.

Frequency of the sampling

Post-mortem examination of all animals and/or meat and organs upon slaughter or killing.

Type of specimen taken

Other: Visual examination of the slaughtered/killed animal and its organs, and palpation of the liver

Case definition

Detection of hydatid cysts in the liver, the lungs and some other organs of the slaughtered, killed or dead animals (porcines, small ruminants, bovines, equidae, and some wild game species)

Diagnostic/analytical methods used

Other: Pathoanatomic examination, visual examination and palpation on the slaughter line, or upon killing in case of wild game

Other preventive measures than vaccination in place

Persons, who in carrying out a registered activity of breeding or production come into direct contact with animals, foodstuffs, raw materials, products or waste, must have thorough knowledge in contagious animal diseases, the prevention thereof and transmissibility to man, and in the regulations governing the protection against contagious diseases.

Animal holders must carry out preventive measures as for instance: providing potable water and feed that are fit for consumption; providing and maintaining the required conditions of hygiene in the animal breeding and auxiliary facilities; preventing the introduction into the breeding facilities of disease agents; implementing veterinary measures in the intensive animal rearing technology; handling as prescribed the animal carcasses and other waste, waste waters, faeces and urine; providing for the preventive disinfection, disinsectisation and deratisation (DDD) in the facilities, on public surfaces and in the means of transport

Control program/mechanisms

The control program/strategies in place

National control programme is carried out in accordance with the national legislation, on

the basis of the Rules on veterinary conditions for the production and placing on the market of fresh meat (transposing Council Directive 64/433/EEC), Rules on conditions for the collection of killed wild game, veterinary inspection, production of meat and placing on the market of the meat of killed wild game, and the Instructions on measures for the detection, prevention and suppression of echinococcosis. The control programme envisages inter alia as follows:

The meat and/or wild game may be placed on the market after the slaughtered/killed animals have visually been inspected by the official veterinarian, or by a hunter acting as the veterinary auxiliary and supervised by the official veterinarian.

Systematic dehelminthisation of dogs along with anti-rabies vaccination

Measures for the detection, prevention and suppression of the disease.

Measures in case of the positive findings or single cases

Harmless disposal of hydatid cysts.

In the areas, where the disease is enzootic, double dehelminthisation of dogs

Notification system in place

In case of disease, the veterinary organisation must notify the Regional Office of VARS, within the area of which the disease has been diagnosed. The report on the occurrence of disease is to be submitted on a monthly basis by the tenth day in a month for the previous month.

The authorised laboratory submits the diagnostic test results to the relevant Regional Office of VARS, and to the consigner of samples.

Once a month and no later than the 20th day in the month, the authorised laboratories and Regional Offices of VARS must report on the diagnostic test results to the Office for Contagious Animal Diseases within VARS.

The Main Office of VARS collects the results of ante- and post-mortem examinations conducted by the official veterinarians, and applies them in relation to the diagnoses of diseases communicable to man.

This method of reporting is carried out in accordance with the provisions of the Rules on contagious animal diseases (applicable since 2002), and the reporting as such has been compulsory since 1996.

Results of the investigation

In 2005, Echinococcus was detected in bovine animals in 7 cases of 131640 animals tested, and in porcine animals in 187 cases (0.04 %) of 420417 animals tested. Tests on 10663 ovine animals detected the Echinococcus in 16 animals (0.15 %). Echinococcus was detected in 7 wild boars (0.46 %) of 1513 animals tested, and in 1 deer of 2701 animals tested.

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

In 2004, as compared to 2003, the number of Echinococcus cases doubled in porcine animals, whilst in 2005, the number of cases decreased by more than 20 %.

In bovine animals, the same number of positive cases was detected in 2005 as in 2001 (7 animals).

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

Generally speaking, no essential changes in the prevalence of Echinococcus in animal population have been noted over the most recent years. The percentage of positive cases in animal population is rather low, i.e. less than 0.5 %. Taking into account the rarity of cases in animal population it may be concluded that human population in general is not at risk.

Table Echinococcus spp. in animals

	Source of information	Sampling unit	Units tested	Total units positive for Echinococcus spp.	E. granulosus	E. multilocularis	Echinococcus spp., unspecified
Cattle (bovine animals)	VARs	animal	131640	7			7
Sheep	VARs	animal	10663	16			16
Goats	VARs	animal	251	0			
Pigs	VARs	animal	420417	187			187
Solipeds, domestic	VARs	animal	1645	0			
Wild boars							
wild	VARs	animal	1513	7			7
Bears							
wild	VARs	animal	39	0			
Deer							
wild							
fallow deer	VARs	animal	153	0			
red deer	VARs	animal	2701	1			1
roe deer	VARs	animal	9860	0			
Mouflons							
wild	VARs	animal	204	0			
Alpine chamois (1)	VARs	animal	192	0			

(1) : wild

2.10. TOXOPLASMOSIS

2.10.1. General evaluation of the national situation

A. Toxoplasmosis general evaluation

History of the disease and/or infection in the country

Human cases are notifiable by national Law on Infectious Diseases. Medical doctors, laboratories are obliged to notify cases on daily basis to local institutes of public health. Local institutes of public health notify disease to Institute of Public Health of R. Slovenia. Notification since 1977.

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

Number of notifications of human cases decreases.

Recent actions taken to control the zoonoses

Screening of pregnant women on routine basis.

2.10.2. Toxoplasma in animals

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

From 1946 to 1950 13 human rabies cases-deaths were recorded. Since 1950 no human cases have been notified in Slovenia.

There were no human and animal cases from 1950 to 1973.

Dog-mediated rabies was eradicated soon after World War II, when compulsory vaccination of dogs against rabies came into force (1947). Since that time all dogs in Slovenia are compulsorily vaccinated against rabies.

Wildlife-mediated rabies has been present since 1973, when the first rabid animal (red fox) was detected in the NW of Slovenia. It had progressively spread through the territory of the municipalities of Murska Sobota and Lendava, but it has never crossed the natural barrier of the Mura River.

The second wave of sylvatic rabies reached Slovenia in 1979 from Austria. From there it has been spread throughout the country and has persisted until the present.

Due to the inconvenient epizootiological situation regarding rabies in the 1980-ies, the Veterinary Administration decided to implement the oral vaccination of foxes against rabies. In 1988, when the pilot project of the manual distribution of baits (so-called Tübingen Model with the SAD type) was started, vaccination was conducted in a small part of Slovenia only. Thereafter, two vaccination campaigns (in spring and autumn) were performed as the strategy of pushing rabies from west to east. At that time, 40,000 to 60,000 baits were distributed in each campaign in a rate of 16 to 20 baits per km². In a few years that followed, the whole territory of Slovenia was covered three times. It was found that if only a certain region was covered at one time, the success rate was poor.

And this was the reason that in 1995, we started with a new strategy to combat rabies. The aircraft distribution of baits has been performed twice per year - spring and autumn. The GPS was used to support bait distribution and is still used today as a prevailing strategy. Each year, 640,000 baits were deposited (320,000 per campaign, 20 baits/km²). The follow up investigations such as anti-body and marker investigations, have been carried out. Specific software has been developed in order to analyse data received from the computer (connected to the GPS). The results of new strategy were very encouraging. The number of rabies cases decreased from 1089 (996 foxes) in 1995 to only 6 cases (5 foxes) in 1999. All cases were detected near the border with Croatia.

In 2000, the number of cases increased again. Because of new tax policy the OVF budget decreased and at the same time there was a deteriorating situation regarding rabies in South - Eastern neighbourhood.

Therefore, the distribution pattern was changed again. The vaccination was not performed in the NW part of Slovenia, where rabies hasn't occurred for several years. For the first time, in autumn 2000 we used the "cross - flights", by which we increased the density and moreover, the dispersion of baits near the eastern and southern border.

In 2001, 135 cases were positive. But in 2002, as the result of new strategy, only 15 cases were positive.

The situation was very encouraging also in 2003, when only 8 cases were detected, all near the SE border. In this year additional 210.000 baits were purchased in the frame of PHARE Twinning Light project and in the frame of its Follow-up, additional 250.000 baits in 2004 were submitted. With this additional amount of baits the "cross-flights" strategy has been expanded to the whole 30 km belt along the Croatian border, and the density increased to 30 per km².

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

No human cases were recorded after 1950.

In 2004, only 2 positive animals (foxes) were detected. Both cases were on the SE border.

In 2005, two rabies cases on the border of vaccination area were detected. Emergency vaccination in 30 km radius around this two outbreaks and taking into account the natural barriers was carrying out. The third case was detected in May in municipality Ilirska Bistrica on the border region with Croatia.

With emergency vaccination we tried to avoid the spread of the disease outside the vaccination area. Nevertheless, the fear that rabies might spread over the vaccination area, even to the rabies-free (EU) countries, still remains present.

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

Epizootic situation improved since introduction of vaccination of wild animals; no human cases were recorded after 1950.

There is possibility of importation of human cases in spite of fact, that preexposure vaccination is available for foreign travellers.

Recent actions taken to control the zoonoses

Ongoing oral vaccination of wild animals (foxes) twice per year.

2.11.2. Lyssavirus (rabies) in animals

Table Rabies in animals

	Source of information	Sampling unit	Units tested	Total units positive for Lyssavirus (rabies)	unspecified lyssavirus
Cattle (bovine animals)	NVI	animal	26	0	
Sheep	NVI	animal	10	0	
Goats	NVI	animal	5	0	
Pigs	NVI	animal	3	0	
Solipeds, domestic	NVI	animal	3	0	
Dogs	NVI	animal	60	0	
Cats	NVI	animal	97	0	
Bats					
wild	NVI	animal	2	0	
Foxes					
wild	NVI	animal	1248	3	
Wild animals	NVI	animal	149	0	

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1. *ESCHERICHIA COLI*, NON-PATHOGENIC

3.1.1. General evaluation of the national situation

3.1.2. Antimicrobial resistance in *Escherichia coli*, non-pathogenic isolates

4. FOODBORNE OUTBREAKS

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

System for identification of foodborne outbreaks is:
mandatory and national.

It covers: family, general and international outbreaks;
and all classes of microbiological agents.

An outbreak of foodborne illness may be defined as two or more linked cases of the same illness or the situation, where the observed number of cases exceeds the expected number.

Outbreaks of foodborne infections are notifiable by national Law on Infectious diseases issued in 1995. Public health professionals in regional institutes are requested to report regularly all investigated outbreaks of infectious intestinal diseases to the Institute of public health of the Republic Slovenia, using a preliminary notification form.

At the end of investigation a final report is also forwarded by the lead investigator.

An outbreak of foodborne illness may be defined as two or more linked cases of the same illness or the situation, where the observed number of cases exceeds the expected number.

Description of the types of outbreaks covered by the reporting:

Reporting covers:

family, general and international outbreaks.

It covers all range of microbiological agents.

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

In 2005 50 outbreaks with 1339 infected/ill persons were recorded.

Included are 15 outbreaks with 194 ill and 34 hospitalized persons of food intoxication (17%),

31 outbreaks transmitted contactly with 883 ill and 19 hospitalized persons(66%),

2 water borne outbreaks with 158 ill persons(11%),

2 other outbreaks.

Agents, which caused the outbreaks were:

Salmonella Enteritidis (11 outbreaks);

Calicivirus (26 outbreaks);

Rotavirus (7 outbreaks);

Cryptosporidium parvum (2 outbreaks);

Enterovirus (1 outbreak);

Gastroenterocolitis (3) (agent not identified).

(During 2004 in Slovenia 37 outbreaks of food intoxication (FI), resulting in at least 1075 people becoming ill (38% of all people ill in outbreaks), and 118 hospitalized, were reported.

The average number of outbreaks of food intoxication (FI) in last 5-year period was 35 (from 27 in year 2001 to 42 in year 2003).

The most frequent causative agent of FI outbreaks was *Salmonella Enteritidis* (31 outbreaks or 84%). Other agents were *Staphylococcus aureus* (2), *Clostridium perfringens* (1); and other unknown agents. Most outbreaks were small in size, 5 of them were greater (more than 50 people were ill).

In 2004 also 41 outbreaks of infectious gastrointestinal diseases (IGI) with contact spread and one outbreak with waterborne spread (*Calicivirus*) were reported.

The average number of outbreaks of (IGI) with contact spread in last 5-year period was 31 (from 23 in year 2000 to 41 in year 2004).

The most notable feature of analysis of the IGI with contact spread outbreak data in the last 5 years is increase in the number of outbreaks, either confirmed or suspected to be due to viruses (Noroviruses), which caused at least 13 or 30% IGI outbreaks in 2004.

The reason for many Norovirus outbreaks are characteristics of virus. A virus has a low infectious dose, it can survive in environment and is easily transmitted from person to person. Congregate and enclosed settings on example Kindergarten, health care settings, homes for the elderly are perfect environments for the virus to spread.

Other agents of IGI outbreaks with contact spread were rotaviruses (11 outbreaks), *Salmonella Enteritidis* (2 outbreaks), hepatitis A (1) and other unknown agents.

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

Agents, which caused the outbreaks were:

Salmonella Enteritidis (11 outbreaks);

Calicivirus (26 outbreaks);

Rotavirus (7 outbreaks);

Cryptosporidium parvum (2 outbreaks);

Enterovirus (1 outbreak);

Gastroenterocolitis (3) (agent not identified).

Salmonellae were isolated from: poultry (4 outbreaks);

biscuits, cakes,.. (home made "tiramisu") (4 outbreaks);

home made pancakes, brought to mass gathering (1 outbreak);

food in hotel in Montenegro (1 outbreak);

food for lunch in primary school (1 outbreak).

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

Most outbreaks were small in size and occurred mostly in Kindergarten, homes for the elderly, schools and self service restaurants.

Evaluation of the severity and clinical picture of the human cases

Most Norovirus infections have a short and mild course.

More severe clinical pictures are caused by Salmonellae.

Descriptions of single outbreaks of special interest

Two outbreaks occurred in summer camps for children in Croatia.
The causative agent was Salmonella Enteritidis.

Control measures or other actions taken to improve the situation

Hospitalizations of severe cases;
general hygienic measures in Kindergartens, homes for the elderly,
kitchens.. were implemented;
control of HACCP system..

Table 12. Foodborne outbreaks in humans

Causative agent	General outbreak	Family outbreak	Total Number in persons				Source		Type of evidence	Location of exposure	Contributing factors
			ill	died	in hospital						
1	2	3	4	5	6	7	8	9	10		
Unknown	x		285	0	26	roast chicken	x	factory	unknown	factory	breakdown HACCP
Unknown	x		31	0	2	food-unknown	x	collective excursion, dinner in the hotel	epidemiological evidence	collective excursion, dinner in the hotel	breakdown HACCP
Unknown	x		21	0	0	carrier	x	pupils and childrens in the kindergarten	pidemiological evidence	pupils and childrens in the kindergarten	unknown
Salmonella - S. Enteritidis		x	3	0	2	biscuit	x	family	epidemiological evidence	family	eggs
Salmonella - S. Enteritidis		x	8	0	7	tiramisu	x	family	laboratory confirmed	family	eggs
Salmonella - S. Enteritidis	x		370	0	27	cake	x	school	laboratory confirmed	school	breakdown HACCP
Salmonella - S. Enteritidis	x		976	0	32	roast chicken	x	school	laboratory confirmed	school	breakdown HACCP
Salmonella - S. Enteritidis	x		12	0	4	food-unknown	x	restaurant	epidemiological evidence	restaurant	breakdown HACCP
Salmonella - S. Enteritidis	x		4	0	3	scrambled eggs	x	hotel	aboratory confirmed	hotel	breakdown HACCP
Salmonella - S. Enteritidis		x	14	0	14	cream cake	x	family celebration	laboratory confirmed	family celebration	eggs
Salmonella - S. Enteritidis	x	x	8	0	5	roast turkey	x	family	laboratory confirmed	family	underdone meat
Salmonella - S. Enteritidis		x	14	0	5	unknown	x	oratorio	oratory confirmed	oratorio	unknown
Salmonella - S. Enteritidis	x		20	0	0	cream cake	x	factory	laboratory confirmed	factory	home made cream cake
Salmonella - S. Enteritidis		x	19	0	10	home made tatarian beefsteak	x	family celebration	laboratory confirmed	family celebration	raw meat
Cryptosporidium - C. parvum	x		60	0	16	unknown	x	patients in hospital	laboratory confirmed	patients in hospital	unknown
Cryptosporidium - C. parvum	x		?	0	61	unknown	x	patients in hospital	laboratory confirmed	patients in hospital	unknown
Food borne viruses - calicivirus (including norovirus)	x		6	0	0	carrier	x	restaurant	epidemiological evidence	restaurant	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x		58	0	0	carrier	x	home for the aged	epidemiological evidence	home for the aged	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x		296	0	75	carrier	x	residences for disables	epidemiological evidence	residences for disables	unknown
Food borne viruses - calicivirus (including norovirus)	x		10	0	6	carrier	x	kindergarten	epidemiological evidence	kindergarten	unknown
Food borne viruses - calicivirus (including norovirus)	x		122	0	22	carrier	x	kindergarten	epidemiological evidence	kindergarten	unknown

Food borne viruses - calicivirus (including norovirus)	x	30	0	0	0	carrier	x	epidemiological evidence	patients in hospital	unknown
Food borne viruses - calicivirus (including norovirus)	x	72	0	0	1	carrier	x	epidemiological evidence	invited persons and employed in the hotel	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x	68	0	0	1	carrier	x	epidemiological evidence	residences for disabled	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x	19	0	0	1	carrier	x	epidemiological evidence	school	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x	9	0	0	0	unknown	x	epidemiological evidence	open-air school	unknown
Food borne viruses - calicivirus (including norovirus)	x	2401	0	0	142	drinking water	x	aboratory confirmed	residents of Mima	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x	120	0	0	20	carrier	x	epidemiological evidence	esicences for disabled	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x	36	0	0	0	carrier	x	epidemiological evidence	home for the aged	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x	23	0	0	0	carrier	x	epidemiological evidence	residences for disabled	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x	15	0	0	0	carrier	x	epidemiological evidence	slovenian and croatian pupils and teachers in open-air school	unknown
Food borne viruses - calicivirus (including norovirus)	x	20	0	0	0	carrier	x	epidemiological evidence	restaurant	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x	19	0	0	0	carrier	x	epidemiological evidence	kindergarten	unknown
Food borne viruses - calicivirus (including norovirus)	x	11	0	0	0	carrier	x	epidemiological evidence	kindergarten	unknown
Food borne viruses - calicivirus (including norovirus)	x	11	0	0	1	carrier	x	epidemiological evidence	childrens in open-air school	unknown
Food borne viruses - calicivirus (including norovirus)	x	16	0	0	0	carrier	x	epidemiological evidence	tourist excursion	unknown
Food borne viruses - calicivirus (including norovirus)	x	187	0	0	59	carrier	x	pidemiological evidence	residences for disabled	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x	95	0	0	1	carrier	x	epidemiological evidence	school	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x	13	0	0	1	carrier	x	epidemiological evidence	restaaurant	breakdown HACCP
Food borne viruses - calicivirus (including norovirus)	x	221	0	0	40	carrier	x	epidemiological evidence	residences for disabled	unknown
Food borne viruses - calicivirus (including norovirus)	x	19	0	0	0	carrier	x	epidemiological evidence	hotel-recreation center	unknown

Food borne viruses - calicivirus (including norovirus)	x	64	0	3	drinking water		x	laboratory confirmed	residents of Trnovska plateau, childrens and tutoress	breakdown HACCP
Food borne viruses - rotavirus	x	338	0	20	carrier	x		epidemiological evidence	residences for disables	unknown
Food borne viruses - rotavirus	x	26	0	3	carrier	x		epidemiological evidence	kindergarten	unknown
Food borne viruses - rotavirus	x	14	0	3	carrier	x		epidemiological evidence	kindergarten	unknown
Food borne viruses - rotavirus	x	11	0	0	carrier	x		epidemiological evidence	kindergarten	breakdown HACCP
Food borne viruses - rotavirus	x	5	0	2	carrier	x		epidemiological evidence	kindergarten	unknown
Food borne viruses - rotavirus	x	17	0	1	carrier	x		epidemiological evidence	kindergarten	unknown
Food borne viruses - rotavirus	x	9	0	1	carrier	x		epidemiological evidence	kindergarten	unknown
Food borne viruses - enterovirus	x	273	0	34	carrier	x		epidemiological evidence	hotel	unknown