



ROMANIA

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

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

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

IN 2007

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: **Romania**

Reporting Year: **2007**

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 Romania during the year 2007. 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.

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

Salmonella have been recognized as important pathogens, Salmonella Enteritidis and Typhimurium have accounted for the majority of cases of human salmonellosis.

2.1.2. Salmonellosis in humans

Table Salmonella in humans - Age distribution

Age Distribution	S. Enteritidis			S. Typhimurium			Salmonella spp.		
	All	M	F	All	M	F	All	M	F
<1 year							42		
1 to 4 years							117		
5 to 14 years							69		
15 to 24 years							71		
25 to 44 years							112		
45 to 64 years							136		
65 years and older							73		
Age unknown							0		
Total :	0	0	0	0	0	0	620	0	0

Table Salmonella in humans - Seasonal distribution

Month	S. Enteritidis		S. Typhimurium		Salmonella spp.	
	Cases		Cases		Cases	
January						33
February						33
March						34
April						75
May						75
June						75
July						66
August						66
September						68
October						31
November						31
December						33
not known						0
Total :		0		0		620

2.1.3. Salmonella in foodstuffs

A. Salmonella spp. in eggs and egg products

Monitoring system

Sampling strategy

Sampling is compulsory for collecting and packing eggs premises and egg processing plants and it s one sample every month for raw material and trimestrial for final products (in case of laboratory findings, the frequency of the sampling will be reconsider till the cause it'identifie and eliminate).

Sampling is performed by official veterinarian and veterinarian desine by compethent authority. The food business operator also performed sampling, in autocontrol programme.

Frequency of the sampling

Eggs at egg packing centres (foodstuff based approach)

Once a month

Eggs at retail

Other: semestrial inspection base on unconformity or suspicion

Raw material for egg products (at production plant)

Once a month

Egg products (at production plant and at retail)

Other: trimestrial

Type of specimen taken

Eggs at egg packing centres (foodstuff based approach)

Other: surface of egg shell and white and yolk egg, enviromental samples

Eggs at retail

Other: surface of egg shell and white and yolk egg

Raw material for egg products (at production plant)

Other: white, yolk and mixture egg

Egg products (at production plant and at retail)

Other: final products

Methods of sampling (description of sampling techniques)

Eggs at egg packing centres (foodstuff based approach)

the final sample is obtained in laboratory and consist of at least 25 grams

Eggs at retail

the final sample is obtained in laboratory and consist of at least 25 grams

Raw material for egg products (at production plant)

for raw material: the final sample is obtained in laboratory and consist of at least 25 grams

Egg products (at production plant and at retail)

for final products: the final sample is obtained in laboratory and consist of at least 25 grams

Definition of positive finding

Eggs at egg packing centres (foodstuff based approach)

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

Eggs at retail

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

Raw material for egg products (at production plant)

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

Egg products (at production plant and at retail)

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

Diagnostic/ analytical methods used

Eggs at egg packing centres (foodstuff based approach)

Bacteriological method: ISO 6579:2002

Eggs at retail

Bacteriological method: ISO 6579:2002

Raw material for egg products (at production plant)

Bacteriological method: ISO 6579:2002

Egg products (at production plant and at retail)

Bacteriological method: ISO 6579:2002

Preventive measures in place

All the preventive measures in place are at the level farm, and the details are described in the Salmonella spp in breeding flocks for egg production and flocks of laying hens

Control program/ mechanisms

The control program/ strategies in place

The Romanian Control Programme it's a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2006, yearly updated and the susceptibility testing of salmonella is a part of the programme.

Measures in case of the positive findings

A positive laboratory finding of Salmonella ssp it's followed by a notification by RASFF to all levels (central, regional and local). Then the all food chain it's controlled in order to identify the origin of the contamination, if it's possible. The contaminated products are traced back and detent under restrictions, till the results of salmonella serotyping come, and depending of the type of the Salmonella we apply different measures (general measures : effective cleaning and disinfection of the premises and equipment are carried out and monitoring too).

Notification system in place

Laboratory has to notify the positive result to the regional competent authority and them they notify the food business operator.

Results of the investigation

See table Salmonella in eggs and egg products

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

Salmonella situation in eggs and egg products has been favourable. Less than 1% of the samples investigated has been positive for Salmonella (the data included also the imports).

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

Salmonella situation in eggs and egg products is not consider an important source of human cases in Romania

B. Salmonella spp. in broiler meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

Sampling is compulsory for all slaughterhouses and cutting plant and it s one sample every month (in case of laboratory findings, the frequency of the saampling will be reconsider till the cause it's identifie and eliminate).

Sampling is performed by official veterinarian and veterinarian desine by compethent authority. The food business operator also performed sampling, in autocontrol programme.

At meat processing plant

Sampling is compulsory for all meat processing plant and it's one sample every semester for raw material and for every product category. (in case of laboratory findings, the frequency of the sampling will be reconsider till the cause it's identify and eliminate).

Sampling is performed by official veterinarian and veterinarian desine by compethent authority. The food business operator also performed sampling, in autocontrol programme.

At retail

Sampling is compulsory or is not compulsory and the decision it s based on risk analysis made it by official veterinarian on the spot, when they performe the inspections.

for meat and meat products (not compulsory): semester inspections;

for restauration (resturants, catering etc - not compulsory): trimestrial, semestrial inspections

for supermarkets, hypermarket (not compulsory):semester inspections;

In case of a nonsatisfactory output of the inspections (suspicion or non conformty) the official veterinarian sampling from raw material, final products etc.

Sampling is performed by official veterinarian and veterinarian desine by compethent authority.

Frequency of the sampling

At slaughterhouse and cutting plant

Every in case of laboratory findings, the frequency of the saampling will be reconsider till the cause it's identify and eliminate months

At meat processing plant

Other: one sample every semester for raw material and for every product category

At retail

Other: for meat and meat products (not compulsory): semester inspections;

Type of specimen taken

At slaughterhouse and cutting plant

Other: surface of carcass, enviromental samples

At meat processing plant

Other: raw material and final product

At retail

Other: raw material and final product

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

The samples should be obtained after precooling, to the end of the licking line, throw the washing technique of the carcasse in a sterile buffered peptonate water (BPW). The carcasses should be immersed in polietilene bags with 400 ml BPW/ 600 ml BPW. The all liquid obtain or only a part (at least 30 ml) it s refrigerate and sent immediately to the laboratory.

At meat processing plant

for raw material: the final sample it s obtained in laboratory and consist of at least 25 grams of each carcasse from the different places

for final products: the final sample it s obtained in laboratory and consist of at least 25 grams of each product from the different places

At retail

for raw material: the final sample it s obtained in laboratory and consist of at least 25 grams of each carcasse from the different places

for final products: the final sample it s obtained in laboratory and consist of at least 25 grams of each product from the different places

Definition of positive finding

At slaughterhouse and cutting plant

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

At meat processing plant

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

At retail

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

Diagnostic/ analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

At meat processing plant

Bacteriological method: ISO 6579:2002

At retail

Bacteriological method: ISO 6579:2002

Preventive measures in place

All the preventive measures in place are at the level farm, and the details are described in the Salmonella spp in broiler meat

Control program/ mechanisms

The control program/ strategies in place

The Romanian Control Programme it's a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2006, yearly updated and the susceptibility testing of salmonella is a part of the programme.

Measures in case of the positive findings or single cases

A positive laboratory finding of Salmonella ssp it's followed by a notification by RASFF to all levels (central, regional and local). Then the all food chain it's controlled in order to identify the origin of the contamination, if it's possible. The contaminated products are traced back and detent under restrictions, till the results of salmonella serotyping come, and depending of the type of the Salmonella we apply different measures (general measures : effective cleaning and disinfection of the premises and equipment are carried out and monitoring too).

Notification system in place

Laboratory has to notify the positive result to the regional competent authority and them they notify the food business operator.

Results of the investigation

See table Salmonella in broiler meat.

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

Salmonella situation in broiler meat has been favourable. Less than 1% of the samples investigated has been positive for Salmonella .

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

Poultry meat is not consider to be an important source of human cases in Romania.

C. Salmonella spp. in turkey meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

The Romanian Salmonella Control Programme: Sampling is compulsory for all slaughterhouses and cutting plant and it's one sample every month (in case of laboratory findings, the frequency of the sampling will be reconsider till the cause is identified and eliminated).

Sampling is performed by official veterinarian and veterinarian designated by competent authority. The food business operator also performed sampling, in autocontrol programme

At meat processing plant

Sampling is compulsory for all meat processing plant and it's one sample every semester for raw material and for every product category. (in case of laboratory findings, the frequency of the sampling will be reconsider till the cause is identified and eliminated).

Sampling is performed by official veterinarian and veterinarian designated by competent authority. The food business operator also performed sampling, in autocontrol programme.

At retail

Sampling is compulsory or is not compulsory and the decision is based on risk analysis made by official veterinarian on the spot, when they perform the inspections.

for meat and meat products (not compulsory): semester inspections;

for restauration (restaurants, catering etc - not compulsory): trimestrial, semestrial inspections

for supermarkets, hypermarket (not compulsory): semester inspections;

In case of a unsatisfactory output of the inspections (suspicion or non conformity) the official veterinarian sampling from raw material, final products etc.

Sampling is performed by official veterinarian and veterinarian designated by competent authority.

Frequency of the sampling

At slaughterhouse and cutting plant

Once a month

At meat processing plant

Other: semestrial

At retail

Other: semestrial

Type of specimen taken

At slaughterhouse and cutting plant

Other: surface of carcass, environmental samples

At meat processing plant

Other: raw material and final products, environmental samples

At retail

Other: raw material and final products, environmental samples

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

The samples should be obtained after precooling, to the end of the evisceration line, throw the washing technique of the carcasse in a sterile buffered peptone water (BPW). The carcasses should be immersed in polyethylene bags with 400 ml BPW/ 600 ml BPW. The all liquid obtain or only a part (at least 30 ml) it s refrigerate and sent immediately to the laboratory.

At meat processing plant

for raw material: the final sample it s obtained in laboratory and consist of at least 25 grams of each carcasse from the different places

for final products: the final sample it s obtained in laboratory and consist of at least 25 grams of each product from the different places

At retail

for raw material: the final sample it s obtained in laboratory and consist of at least 25 grams of each carcasse from the different places

for final products: the final sample it s obtained in laboratory and consist of at least 25 grams of each product from the different places

Definition of positive finding

At slaughterhouse and cutting plant

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

At meat processing plant

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

At retail

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

Diagnostic/ analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

At meat processing plant

Bacteriological method: ISO 6579:2002

At retail

Bacteriological method: ISO 6579:2002

Preventive measures in place

All the preventive measures in place are at the level farm, and the details are described in the Salmonella spp in turkey

Control program/ mechanisms

The control program/ strategies in place

The Romanian Control Programme it's a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2006, yearly updated and the susceptibility testing of salmonella is a part of the programme.

Measures in case of the positive findings or single cases

A positive laboratory finding of Salmonella ssp it's followed by a notification by RASFF to all levels (central, regional and local). Then the all food chain it's controlled in order to identify the origin of the contamination, if it's possible. The contaminated products are traced back and detent under restrictions, till the results of salmonella serotyping come, and depending of the type of the Salmonella we apply different measures (general measures : effective cleaning and disinfection of the premises and equipment are carried out and monitoring too).

Notification system in place

Laboratory has to notify the positive result to the regional competent authority and then they notify the food business operator.

Results of the investigation

See table Salmonella in turkey meat.

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

The limited number of samples not allowed to evaluate the Salmonella prevalence in turkey meat and products thereof, anyway the Romanian Industry regarding turkey meat and products thereof it's very limited.

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

Salmonella situation in turkey meat and products thereof is not consider an important source of human cases in Romania

D. Salmonella spp. in pig meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

Sampling is compulsory for slaughterhouses and cutting plant.

- for slaughterhouses: it's one sample every month and supplementary according to the specific programmes for the establishments which perform export in third countries,
- for cutting plants: it's one sample every trimester for every meat category.

(in case of laboratory findings, the frequency of the sampling will be reconsider till the cause will be identified and eliminated)

Sampling is performed by official veterinarian and veterinarian nominated by competent authority. The food business operator also performed sampling, in autocontrol programme.

At meat processing plant

Sampling is compulsory for all meat processing plant and it's one sample every trimester for every product category (in case of laboratory findings, the frequency of the sampling will be reconsider till the cause will be identified and eliminated).

Sampling is performed by official veterinarian and veterinarian nominated by competent authority. The food business operator also performed sampling, in autocontrol programme.

At retail

Sampling is compulsory or is not compulsory and the decision is based on risk analysis made by official veterinarian on the spot, when they perform the inspections.

- for meat and meat products (not compulsory): semester inspections;
- for restauration (restaurants, catering etc - not compulsory): trimestrial, semestrial inspections
- for supermarkets, hypermarket (not compulsory): semester inspections;

In case of a unsatisfactory output of the inspections (suspicion or non conformity) the official veterinarian sampling from raw material, final products etc.

Sampling is performed by official veterinarian and veterinarian nominated by competent authority.

Frequency of the sampling

At slaughterhouse and cutting plant

Every it's one sample every month and supplementary according to the specific programmes for the establishments which perform export in third countries, months

At meat processing plant

Other: every trimester for every meat category.

At retail

Other: - for meat and meat products (not compulsory): semester inspections;

Type of specimen taken

At slaughterhouse and cutting plant

Other: surface of carcasses, enviromental samples

At meat processing plant

Other: all final sortiments

At retail

Other: carcass surface, fresh meat, minced meat, etc

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

A sample consist of 3 superficial tissue sampling and it's representing a total of 300 cm square, which should be obtained from the carcass after dressing but before chilling commences (pieces of tissue may be obtained using a sterile knife by cutting a slice (square form) of 100 cm square and thickness 1-1.3 cm, from the following sites - belly, jowl or cheek and hind limb external - ham).

Each sample must be placed aseptically into a plastic bag, identify, and transferred to the laboratory in refrigerated conditiones.

At meat processing plant

for raw material:a sample consist of 3 superficial tissue sampling and it's representing a total of 300 cm square, which should be obtained from the carcass after dressing but before chilling commences (pieces of tissue may be obtained using a sterile knife by cutting a slice (square form) of 100 cm square and thickness 1-1.3 cm, from the following sites - belly, jowl or cheek and hind limb external - ham).

Each sample must be placed aseptically into a plastic bag, identify, and transferred to the laboratory in refrigerated conditiones.

for final products: the final sample it s obtained in laboratory and consist of at least 25 grams of each product from the different places

At retail

for raw material:a sample consist of 3 superficial tissue sampling and it's representing a total of 300 cm square, which should be obtained from the carcass after dressing but before chilling commences (pieces of tissue may be obtained using a sterile knife by cutting a slice (square form) of 100 cm square and thickness 1-1.3 cm, from the following sites - belly, jowl or cheek and hind limb external - ham).

Each sample must be placed aseptically into a plastic bag, identify, and transferred to the laboratory in refrigerated conditiones.

for final products: the final sample it s obtained in laboratory and consist of at least 25 grams of each product from the different places

Definition of positive finding

At slaughterhouse and cutting plant

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

At meat processing plant

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

At retail

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

Diagnostic/ analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

At meat processing plant

Bacteriological method: ISO 6579:2002

At retail

Bacteriological method: ISO 6579:2002

Preventive measures in place

All the preventive measures in place are at the level farm, and the details are described in the Salmonella spp in pigs

Control program/ mechanisms

The control program/ strategies in place

The Romanian Control Programme it's a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2006, yearly updated and the susceptibility testing of salmonella is a part of the programme.

Measures in case of the positive findings or single cases

A positive laboratory finding of Salmonella ssp it's followed by a notification by RASFF to all levels (central, regional and local). Then the all food chain it's controlled in order to identify the origin of the contamination, if it's possible. The contaminated products are traced back and detent under restrictions, till the results of salmonella serotyping come, and depending of the type of the Salmonella we apply different measures (general measures : effective cleaning and disinfection of the premises and equipment are carried out and monitoring too).

Notification system in place

Laboratory has to notify the positive result to the regional and central authority and the regional

authority notify the food business operator.

Results of the investigation

See table Salmonella in pig meat

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

Even the most Salmonella strains were isolated from poultry meat (76) and from pork meat (54), which represented the main infection sources, salmonella situation in domestic pig meat has been favorable. Less than 1% of the samples investigated has been positive for Salmonella.

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

Pig meat is not consider to be an important source of human cases in Romania.

E. Salmonella spp. in bovine meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

Sampling is compulsory for slaughterhouses and cutting plant.

- for slaughterhouses: it's one sample every month and suplimentary according to the specific programmes for the establishments which perform export in third countries,
- for cutting plants: it's one sample every trimester for every meat category.

(in case of laboratory findings, the frequency of the sampling will be reconsider till the cause will be identify and eliminate)

Sampling is performed by official veterinarian and veterinarian nominated by competent authority. The food business operator also performed sampling, in autocontrol programme.

At meat processing plant

Sampling is compulsory for all meat processing plant and it's one sample every trimester for every product category(in case of laboratory findings, the frequency of the sampling will be reconsider till the cause will be identify and eliminate).

Sampling is performed by official veterinarian and veterinarian nominated by competent authority. The food business operator also performed sampling, in autocontrol programme.

At retail

Sampling is compulsory or is not compulsory and the decision it s based on risk analysis made it by official veterinarian on the spot, when they perform the inspections.

- for meat and meat products (not compulsory): semester inspections;
- for restauration (restaurants, catering etc - not compulsory): trimestrial, semestrial

inspections

- for supermarkets, hypermarket (not compulsory): semester inspections;

In case of a unsatisfactory output of the inspections (suspicion or non conformity) the official veterinarian sampling from raw material, final products etc.

Sampling is performed by official veterinarian and veterinarian nominated by competent authority.

Frequency of the sampling

At slaughterhouse and cutting plant

Every it's one sample every month and suplimentary according to the specific programmes for the establishments which perform export in third countries, months

At meat processing plant

Other: every trimester

At retail

Other: - for meat and meat products (not compulsory): semester inspections;

Type of specimen taken

At meat processing plant

Other: raw material, final products

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

A sample consist of 3 superficial tissue sampling and it's representing a total of 300 cm square, which should be obtained from the carcass after dressing but before chilling commences (pieces of tissue may be obtained using a sterile knife by cutting a slice (square form) of 100 cm square and thickness 1-1.3 cm, from the following sites - flank, brisket and rump).

Each sample must be placed aseptically into a plastic bag, identify, and transferred to the laboratory in refrigerated conditiones.

At meat processing plant

for raw material: a sample consist of 3 superficial tissue sampling and it's representing a total of 300 cm square, which should be obtained from the carcass after dressing but before chilling commences (pieces of tissue may be obtained using a sterile knife by cutting a slice (square form) of 100 cm square and thickness 1-1.3 cm, from the following sites - flank, brisket and rump).

Each sample must be placed aseptically into a plastic bag, identify, and transferred to the laboratory in refrigerated conditiones.

for final products: the final sample it s obtained in laboratory and consist of at least 25 grams of each product from the different places

At retail

for final products: the final sample is obtained in laboratory and consist of at least 25 grams of each product from the different places

Definition of positive finding

At slaughterhouse and cutting plant

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

At meat processing plant

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

At retail

Foodstuff is considered to be positive when salmonella spp is isolated from a sample

Diagnostic/ analytical methods used

At slaughterhouse and cutting plant

Bacteriological method: ISO 6579:2002

At meat processing plant

Bacteriological method: ISO 6579:2002

At retail

Bacteriological method: ISO 6579:2002

Preventive measures in place

All the preventive measures in place are at the level farm, and the details are described in the Salmonella spp in bovine

Control program/ mechanisms

The control program/ strategies in place

The Romanian Control Programme it's a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2006, yearly updated and the susceptibility testing of salmonella is a part of the programme.

Measures in case of the positive findings or single cases

A positive laboratory finding of Salmonella spp it's followed by a notification by RASFF to all levels (central, regional and local). Then the all food chain it's controlled in order to identify the origin of the contamination, if it's possible. The contaminated products are traced back and detent under restrictions, till the results of salmonella serotyping come, and depending of the type of the

Salmonella we apply different measures (general measures : effective cleaning and disinfection of the premises and equipment are carried out and monitoring too).

Notification system in place

Laboratory has to notify the positive result to the regional competent authority and then they notify the food business operator.

Results of the investigation

See table Salmonella in bovine meat.

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

Salmonella situation in domestic bovine meat has been favourable. Less than 1% of the samples investigated has been positive for Salmonella

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

Bovine meat is not considered to be an important source of human cases in Romania

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Infantis	S. Djugu	S. Virchow	S. London	S. Remo	S. Saintpaul	S. Bredeney	S. Glostrup	S. Hadar	S. Enteritidis
Meat from broilers (Gallus gallus) fresh	SVFSL	single	25 g	7698	75	2	1	33	2	1	3	2	1	14	16
- at slaughterhouse (1) minced meat intended to be eaten cooked - at retail	SVFSL	single	25 g	275	0	0	0	0	0	0	0	0	0	0	0
meat preparation intended to be eaten cooked - at retail	SVFSL	single	25 g	842	0	0	0	0	0	0	0	0	0	0	0
meat products raw but intended to be eaten cooked - at retail	SVFSL	single	25 g	974	0	0	0	0	0	0	0	0	0	0	0
cooked, ready-to-eat - at retail	SVFSL	single	25 g	816	0	0	0	0	0	0	0	0	0	0	0

mechanically separated meat (MSM)	SVFSL	single	25 g	975	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meat from turkey																		
fresh																		
- at slaughterhouse	SVFSL	single	25 g	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0
minced meat																		
intended to be eaten																		
cooked																		
- at retail	SVFSL	single	25 g	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
meat preparation																		
intended to be eaten																		
cooked																		
- at retail	SVFSL	single	25 g	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
meat products																		
raw but intended to be																		
eaten cooked																		
- at retail	SVFSL	single	25 g	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
cooked, ready-to-eat																		
- at retail - Surveillance	SVFSL	single	25 g	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meat from duck																		
- at retail - Surveillance	SVFSL	single	25 g	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(1) : surveillance + autocheck, slaughterhouse, processing and retailer

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Milk, cows'								
raw (1)	SVFSL	single	25 g	4007	0			
intended for direct human consumption	SVFSL	single	25g	25	0			
raw milk for manufacture								
intended for manufacture of raw or low heat-treated products	SVFSL	single	25 g	3541	0			
intended for manufacture of pasteurised/ UHT products	SVFSL	single	25 g	441	0			
pasteurised milk								
- at processing plant	SVFSL	single	25 g	265	0			
Milk, goats'								
raw	SVFSL	single	25 g	3	0			
raw milk for manufacture								
intended for manufacture of raw or low heat-treated products	SVFSL	single	25 g	1	0			
intended for manufacture of pasteurised/ UHT products	SVFSL	single	25 g	2	0			
Milk, sheep's								
raw	SVFSL	single	25 g	70	0			
raw milk for manufacture								
intended for manufacture of raw or low heat-treated products	SVFSL	single	25 g	70	0			
Cheeses made from cows' milk								
- at processing plant (2)	SVFSL	single	25 g	2410	0			
soft and semi-soft								
- at processing plant (3)	SVFSL	single	25 g	535	0			
made from raw or low heat-treated milk								
- at processing plant (4)	SVFSL	single	25 g	469	0			
made from pasteurised milk								

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- at processing plant (5)	SVFSL	single	25 g	1406	0			
Cheeses made from goats' milk								
- at processing plant (6)	SVFSL	single	25 g	478	0			
soft and semi-soft								
- at processing plant (7)	SVFSL	single	25 g	16	0			
made from raw or low heat-treated milk								
- at processing plant (8)	SVFSL	single	25 g	5	0			
made from pasteurised milk								
- at processing plant (9)	SVFSL	single	25 g	457	0			
Cheeses made from sheep's milk								
- at processing plant (10)	SVFSL	single	25 g	776	0			
soft and semi-soft								
- at processing plant (11)	SVFSL	single	25 g	36	0			
made from raw or low heat-treated milk								
- at processing plant (12)	SVFSL	single	25 g	520	0			
made from pasteurised milk								
- at processing plant (13)	SVFSL	single	25 g	220	0			
Dairy products (excluding cheeses)								
butter								
made from raw or low heat-treated milk								
- at processing plant (14)	SVFSL	single	25 g	96	0			
cream								
made from raw or low heat-treated milk								
- at processing plant (15)	SVFSL	single	25 g	221	0			
milk powder and whey powder								
- at processing plant (16)	SVFSL	single	25 g	559	0			
ice-cream								
- at processing plant (17)	SVFSL	single	25 g	568	0			

- (1) : surveillance and autocheck
(2) : and retail, surveillance and retail
(3) : and retail
(4) : and retail
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(12) : and retail, surveillance and autocheck
(13) : and retail, surveillance and autocheck
(14) : and retail, surveillance and autocheck
(15) : and retail, surveillance and autocheck
(16) : and retail, surveillance and autocheck

(17) : and retail, surveillance and autocheck

Table Salmonella in red meat and products thereof (Part A)

	Source of information																			
	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Taksony	S. Newport	S. Virchow	S. Infantis	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Give	S. Kedougou	S. Ruzizi	S. Kambole	S. Rissen	S. Derby	S. London	S. Bredeney	
Meat from pig	SVFSL	single	25 g	85118	30	0	1	1	3	2	4	0	5	4	0	0	3	5	1	0
Meat from pig	SVFSL	single	25 g	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meat from pig	SVFSL	single	25 g	4257	5	0	0	1	0	0	2	0	0	0	0	0	0	1	0	1
Meat from pig	SVFSL	single	25 g	247	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meat from pig	SVFSL	single	25 g	2182	11	1	0	1	1	0	2	0	1	1	2	0	0	1	0	1

[illegible]

[illegible]

(1) : and processing and retail,
surveillance and autocheck

(2) : and retail, surveillance and autocheck

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(9) : and retail, surveillance and autocheck

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(13) : and retail, surveillance and autocheck

(14) : and retail, surveillance and autocheck

(15) : surveillance and autocheck

(16) : and processing, retail surveillance and

(17) : and retail, surveillance and autocheck

(17) : and retail, surveillance and autoclen

(19) : and retail-surveillance and autocheck

Table Salmonella in red meat and products thereof (Part B)

	S. Agona
Meat from pig	
fresh	
- at slaughterhouse (1)	1
minced meat	
intended to be eaten raw	
- at processing plant (2)	0
intended to be eaten cooked	
- at processing plant (3)	0
meat preparation	
intended to be eaten raw	
- at processing plant (4)	0
intended to be eaten cooked	
- at processing plant (5)	0
meat products	
raw but intended to be eaten cooked	
- at processing plant (6)	0
cooked, ready-to-eat	
- at processing plant (7)	0
mechanically separated meat (MSM)	0
Meat from bovine animals	
fresh	

- at slaughterhouse (8)	0
minced meat	
intended to be eaten raw	
- at processing plant (9)	0
intended to be eaten cooked	
- at processing plant (10)	0
meat preparation	
intended to be eaten raw	
- at processing plant (11)	0
intended to be eaten cooked	
- at processing plant (12)	0
meat products	
raw but intended to be eaten cooked	
- at processing plant (13)	0
cooked, ready-to-eat	
- at processing plant (14)	0
mechanically separated meat (MSM)	
- at processing plant (15)	0
Meat from sheep	
fresh	
- at slaughterhouse (16)	0
minced meat (17)	0
Meat from horse	
fresh	
- at slaughterhouse (18)	0
minced meat	
- at processing plant (19)	0

Other products of animal origin	
gelatin and collagen	0
Meat, mixed meat	
- Surveillance	0
Meat from rabbit	
- at game handling establishment - Surveillance	0

- (1) : and processing and retail, surveillance and autocheck
 (2) : and retail, surveillance and autocheck
 (3) : and retail, surveillance and autocheck
 (4) : and retail, surveillance and autocheck
 (5) : and retail, surveillance and autocheck
 (6) : and retail, surveillance and autocheck
 (7) : and retail, surveillance and autocheck
 (8) : and processing and retail, surveillance and autocheck
 (9) : and retail, surveillance and autocheck
 (10) : and retail, surveillance and autocheck
 (11) : and retail, surveillance and autocheck
 (12) : and retail, surveillance and autocheck
 (13) : and retail, surveillance and autocheck
 (14) : and retail, surveillance and autocheck
 (15) : surveillance and autocheck
 (16) : and processing, retail surveillance and autocheck
 (17) : and retail, surveillance and autocheck
 (18) : and processing plant and retail, surveillance and autocheck
 (19) : and retail, surveillance and autocheck

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Eggs								
table eggs								
- at packing centre	SVFSL	single	25 g	2970	0	0	0	0
- at retail	SVFSL	single	25 g	1043	0	0	0	0
raw material (liquid egg) for egg products	SVFSL	single	25 g	73	0	0	0	0
Egg products								
- at processing plant (1)	SVFSL	single	25 g	434	1	1	0	0
Fishery products, unspecified								
- at processing plant (2)	SVFSL	single	25 g	1485	0	0	0	0
Crustaceans								
unspecified								
raw								
- at processing plant	SVFSL	single	25 g	3	0	0	0	0
Molluscan shellfish								
cooked								
- at processing plant (3)	SVFSL	single	25 g	40	0	0	0	0
raw								
- at processing plant (4)	SVFSL	single	25 g	7	0	0	0	0
Seeds, sprouted								
ready-to-eat (5)	SVFSI	single	25 g	4	0	0	0	0
Fruits and vegetables								
precut	SVFSL	single	25 g	180	0	0	0	0
ready-to-eat	SVFSL	single	25 g	231	0	0	0	0
Juice								
fruit juice								
unpasteurised	SVFSL	single	25 g	61	0	0	0	0
vegetable juice								
unpasteurised	SVFSL	single	25 g	16	0	0	0	0
Infant formula								
dried								

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intended for infants below 6 months	SVFSL	single	25 g	0	0	0	0	0
Foodstuffs intended for special nutritional uses								
dried dietary foods for special medical purposes intended for infants below 6 months	SVFSL	single	25 g	8	0	0	0	0

(1) : and retail, surveillance and autochek

(2) : and retail, autochek and surveillance

(3) : and retail, surveillance and autochek

(4) : surveillance, and retail

(5) : surveillance

2.1.4. Salmonella in animals

Table Salmonella in breeding flocks of Gallus gallus

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	S. Hadar	S. Infantis	S. Virchow	Salmonella spp., unspecified

Footnote

Reg(EC)no 1003/ 2005 is implemented in Romania
The data are not available yet at the central level.

Table Salmonella in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified

Footnote

No data available at the central level

2.1.5. Salmonella in feedingstuffs

Table Salmonella in feed material of animal origin

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Feed material of land animal origin								
dairy products	SVFSL	batch	25 g	0	0	0	0	0
meat meal	SVFSL	batch	25 g	1	0	0	0	0
meat and bone meal	SVFSI	batch	25 g	0	0	0	0	0
bone meal	SVFSL	batch	25 g	0	0	0	0	0
greaves	SVFSL	batch	25 g	0	0	0	0	0
poultry offal meal	SVFSL	batch	25 g	402	13	9	0	4
feather meal	SVFSL	batch	25 g	49	0	0	0	0
blood meal	SVFSL	batch	25 g	0	0	0	0	0
animal fat	SVFSL	batch	25 g	0	0	0	0	0
Feed material of marine animal origin								
fish meal	SVFSL	batch	25 g	264	0	0	0	0
fish oil	SVFSL	batch	25 g	0	0	0	0	0
fish silage	SVFSL	batch	25 g	0	0	0	0	0
other fish products	SVFSL	batch	25 g	4	0	0	0	0

Table Salmonella in other feed matter

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Feed material of cereal grain origin								
barley derived	SVFSL	batch	25 g	1	0			
wheat derived	SVFSL	batch	25 g	1	0			
maize	SVFSL	batch	25 g	1	0			
other cereal grain derived	SVFSL	batch	25 g	33	0			
Feed material of oil seed or fruit origin								
cotton seed derived	SVFSL	batch	25 g	29	0			
sunflower seed derived	SVFSL	batch	25 g	18	0			
other oil seeds derived	SVFSL	batch	25 g	15	0			

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella spp.	S. Typhimurium	S. Enteritidis	Salmonella spp., unspecified
Compound feedingstuffs for cattle								
final product	SVFSL	single	25 g	23	0	0	0	0
Compound feedingstuffs for pigs								
process control	SVFSL	single	25 g	2	0	0	0	0
final product	SVFSL	single	25 g	58	0	0	0	0
Compound feedingstuffs for poultry (non specified)								
process control	SVFSL	single	25 g	4	0	0	0	0
final product	SVFSL	single	25 g	62	0	0	0	0
Compound feedingstuffs for poultry -breeders								
final product	SVFSL	single	25 g	104	0	0	0	0
Compound feedingstuffs for poultry - laying hens								
process control	SVFSI	single	25 g	3	0	0	0	0
final product	SVFSL	single	25 g	46	0	0	0	0
Compound feedingstuffs for poultry - broilers								
final product	SVFSL	single	25 g	95	0	0	0	0
Pet food								
dog snacks (pig ears, chewing bones)	SVFSL	single	25 g	191	0	0	0	0

2.1.6. Salmonella serovars and phagetype distribution

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

Table Salmonella serovars in animals

Serovars	Solipeds, domestic - horses		Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Other poultry		Goats		Wild boars		Sheep		Chinchillas		Foxes	
	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M	C
Sources of isolates (*)																				
Number of isolates in the laboratory	N=	3	11		64		125		40		1		1		24		4		2	
Number of isolates serotyped	N=	3	11	0	64	0	125	0	40	0	1	0	1	0	24	0	4	0	2	0
Number of isolates per type																				
S. Abortusovis															19					
S. Agona					2															
S. Anatum			1		1															
S. Bredeney					3															
S. Choleraesuis					26															
S. Concord					2															
S. Derby							1													
S. Djugu					8		13													
S. Enteritidis							21		17				1				2		1	
S. Fyris					1															
S. Give					5		5													
S. Glostrup			1				2													
S. Hadar							11													
S. Heidelberg							4													
S. Inganda			4																	
S. Isangi							1													

[illegible]

Footnote

(*)M : Monitoring, C : Clinical

Table Salmonella serovars in food

Serovars		Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Other poultry		Other products of animal origin	
		M	C	M	C	M	C	M	C	M	C
Sources of isolates (*)											
Number of isolates in the laboratory		N=	8	0	0	54	0	75	0	4	0
Number of isolates serotyped		N=	8	0	0	54	0	75	0	4	0
Number of isolates per type											
S. Agona		0	0	0	0	1	0	0	0	0	0
S. Bredeney		0	0	0	0	3	0	2	0	0	0
S. Derby		1	0	0	0	8	0	0	0	0	0
S. Djugu		0	0	0	0	0	0	1	0	0	0
S. Enteritidis (1)		0	0	0	0	3	0	16	0	4	0
S. Give		1	0	0	0	6	0	0	0	0	0
S. Glostrup		0	0	0	0	0	0	1	0	0	0
S. Hadar		0	0	0	0	0	0	14	0	0	0
S. Infantis		1	0	0	0	4	0	2	0	0	0
S. Kambole		0	0	0	0	2	0	0	0	0	0
S. Kedougou		2	0	0	0	5	0	0	0	0	0
S. London		0	0	0	0	2	0	2	0	0	0
S. Newport		0	0	0	0	1	0	0	0	0	0
S. Remo		0	0	0	0	0	0	1	0	0	0

S. Rissen	1	0	3	0	0	0	0	0	0	0	0	0
S. Ruzizi	0	0	2	0	0	0	0	0	0	0	0	0
S. Saintpaul	0	0	0	0	0	3	0	0	0	0	0	0
S. Taksony	0	0	1	0	0	0	0	0	0	0	0	0
S. Typhimurium	0	0	8	0	0	0	0	0	0	0	0	0
S. Virchow	1	0	3	0	0	33	0	0	0	0	0	0
Other serotypes	1	0	2	0	0	0	0	0	0	0	0	0

(1) : Other products:

1 Salmonella enteritidis egg powder

1 Salmonella enteritidis Tiramisu

2 Salmonella enteritidis cakes

Footnote

(*) M : Monitoring, C : Clinical

Table Salmonella Enteritidis phagetypes in animals

Phagetype	Wild boars		Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Other poultry		Geese		Ducks		Ostriches		Chinchillas		Foxes	
	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M	C
Sources of isolates (*)																				
Number of isolates in the laboratory	N=						21				2		14		1		2		1	
Number of isolates phagetyped	N=	1	0	0	0	0	21	0	0	0	2	0	14	0	1	0	2	0	1	0
Number of isolates per type																				
Other	1						21				2		14		1		2			
6a																			1	

Footnote

(*) M : Monitoring, C : Clinical

Table Salmonella Typhimurium phagetypes in animals

Phagetype	Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Other poultry		Sheep		Chinchillas		Foxes	
	M	C	M	C	M	C	M	C	M	C	M	C	M	C
Sources of isolates (*)														
Number of isolates in the laboratory	N=	3	6		23		13		4		2		1	
Number of isolates phagetyped	N=	3	6	0	23	0	13	0	4	0	2	0	1	0
Number of isolates per type														
other	2		6		23		12		3		2		1	
1	1													
3							1		1					

Footnote

(*) M : Monitoring, C : Clinical

2.1.7. Antimicrobial resistance in Salmonella isolates

Antimicrobial resistance is the ability of certain microorganisms to survive or grow in the presence of a given concentration of antimicrobial agent that usually would kill or inhibit the microorganism species in question. Antimicrobial resistant Salmonella strains may be transferred from animals or foodstuffs to humans.

A. Antimicrobial resistance in Salmonella in foodstuff derived from cattle

Sampling strategy used in monitoring

Frequency of the sampling

Samples originate from the Romanian National Programme and the autochek Programme of the establishments.

The frequency of the sampling depends of different criteria such as: the capacity/ year of the unit, the risk of the product and the category of the consumer.

Type of specimen taken

Details of the sampling are described in the text Salmonella ssp in bovine meat and products thereof.

Methods of sampling (description of sampling techniques)

Methods of sampling are described in the text Salmonella ssp in bovine meat and products thereof.

Procedures for the selection of isolates for antimicrobial testing

One isolates from each positive batch was included.

Methods used for collecting data

Isolates were collected from regional laboratories (SVFSL)and tested in Cantacuzino C. Institute (private laboratory).

Laboratory methodology used for identification of the microbial isolates

Bacteriological method: SR ISO 6579:2002

Laboratory used for detection for resistance

Antimicrobials included in monitoring

The method used it's disc diffusion; testing were performed according to NCCLS document and quality control according to the NCCLS standards.

Breakpoints used in testing

Epidemiological cut of values, based on microbiological distributions were used.

Preventive measures in place

All the preventive measures in place are at the level farm and the details are described in Salmonella ssp in cattle.

Control program/ mechanisms

The control program/ strategies in place

The Romanian Control Programme it's a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2006, yearly updated and the susceptibility testing of salmonella is a part of the programme.

Measures in case of the positive findings or single cases

A positive laboratory finding of Salmonella ssp it's followed by a notification by RASFF to all levels (central, regional and local). Then the all food chain it's controlled in order to identify the origin of the contamination, if it's possible. The contaminated products are traced back and detent under restrictions, till the results of salmonella serotyping come, and depending of the type of the Salmonella we apply different measures (general measures : effective cleaning and disinfection of the premises and equipment are carried out and monitoring too).

Notification system in place

Laboratory has to notify the positive result to the regional and central authority and the regional authority notify the food business operator.

Results of the investigation

Bovine meat

The limited number of isolates (8) allowed a limited evaluation of the resistance level in this food category only.

We tested for antimicrobial resistance for 8 strains from beef meat isolated from mentioned food.

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

The most Salmonella strains were isolated from poultry meat (76) and from pork meat (54), which represented the main infection sources.

Following our assessment, Salmonella strains were resistant especially toand sensible to.....

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

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.

B. Antimicrobial resistance in Salmonella in foodstuff derived from pigs

Sampling strategy used in monitoring

Frequency of the sampling

Samples originate from the Romanian National Programme and the autochek Programme of the establishments.

The frequency of the sampling depends of different criteria such as:
the capacity/ year of the unit, the risk of the product and the category of the consumer.

Type of specimen taken

Details of the sampling are described in the text *Salmonella* ssp in pig meat and products thereof.

Methods of sampling (description of sampling techniques)

Methods of sampling are described in the text *Salmonella* ssp in pig meat and products thereof.

Procedures for the selection of isolates for antimicrobial testing

One isolates from each positive batch was included.

Methods used for collecting data

isolates were collected from regional laboratories (SVFSL)and tested in Cantacuzino C. Institute (private laboratory).

Laboratory methodology used for identification of the microbial isolates

Bacteriological method: SR ISO 6579:2002

Laboratory used for detection for resistance

Antimicrobials included in monitoring

The method used it's disc diffusion; testing were performed according to NCCLS document and quality control according to the NCCLS standards.

Breakpoints used in testing

Epidemiological cut of values, based on microbiological distributions were used.

Preventive measures in place

All the preventive measures in place are at the level farm and the details are described in *Salmonella* ssp in pigs.

Control program/ mechanisms

The control program/ strategies in place

The Romanian Control Programme is a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2006, yearly updated and the susceptibility testing of salmonella is a part of the programme.

Measures in case of the positive findings or single cases

A positive laboratory finding of *Salmonella* ssp is followed by a notification by RASFF to all levels (central, regional and local). Then the whole food chain is controlled in order to identify the origin of the contamination, if it's possible. The contaminated products are traced back and detained under restrictions, till the results of salmonella serotyping come, and depending of the type of the *Salmonella* we apply different measures (general measures : effective cleaning and disinfection of the premises and equipment are carried out and monitoring too).

Notification system in place

Laboratory has to notify the positive result to the regional and central authority and the regional authority notify the food business operator.

Results of the investigation

We tested for antimicrobial resistance for 54 strains from pig meat isolated from mentioned food.

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

The most *Salmonella* strains were isolated from poultry meat (76) and from pork meat (54), which represented the main infection sources.

Following our assessment, *Salmonella* strains were resistant especially toand sensible to.....

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

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.

C. Antimicrobial resistance in Salmonella in foodstuff derived from poultry

Sampling strategy used in monitoring

Frequency of the sampling

Samples originate from the Romanian National Programme and the autochek Programme of the establishments.

The frequency of the sampling depends of different criteria such as: the capacity/ year of the unit, the risk of the product and the category of the consumer.

Type of specimen taken

Details of the sampling are described in the text *Salmonella* ssp in poultry meat and products thereof.

Methods of sampling (description of sampling techniques)

Methods of sampling are described in the text *Salmonella* ssp in poultry meat and products thereof.

Procedures for the selection of isolates for antimicrobial testing

One isolates from each positive batch was included.

Methods used for collecting data

Isolates were collected from regional laboratories (SVFSL)and tested in Cantacuzino C. Institute (private laboratory).

Laboratory used for detection for resistance

Antimicrobials included in monitoring

The method used it's disc diffusion; testing were performed according to NCCLS document and quality control according to the NCCLS standards.

Breakpoints used in testing

Epidemiological cut of values, based on microbiological distributions were used.

Preventive measures in place

All the preventive measures in place are at the level farm and the details are described in *Salmonella* ssp in *Gallus Gallus*.

Control program/ mechanisms

The control program/ strategies in place

The Romanian Control Programme it's a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2006, yearly updated and the susceptibility testing of salmonella is a part of the programme.

Measures in case of the positive findings or single cases

A positive laboratory finding of *Salmonella* ssp it's followed by a notification by RASFF to all levels (central, regional and local). Then the all food chain it's controlled in order to identify the origin of the contamination, if it's possible. The contaminated products are traced back and detent under restrictions, till the results of salmonella serotyping come, and depending of the type of the

Salmonella we apply different measures (general measures : effective cleaning and disinfection of the premises and equipment are carried out and monitoring too).

Notification system in place

Laboratory has to notify the positive result to the regional and central authority and the regional authority notify the food business operator.

Results of the investigation

We tested for antimicrobial resistance for 76 strains from poultry meat isolated from mentioned food.

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

The most Salmonella strains were isolated from poultry meat (76) and from pork meat (54), which represented the main infection sources.

Following our assessment, Salmonella strains were resistant especially toand sensible to.....

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

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

Table Antimicrobial susceptibility testing of S. Abortusovis in Sheep - at farm - Surveillance - quantitative data [Diffusion method]

S. Abortusovis																																			
Sheep - at farm - Surveillance																																			
Isolates out of a monitoring programme																																			
Number of isolates available in the laboratory																																			
Antimicrobials:		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
Break point	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			
Aminoglycosides																																			
	Gentamicin	0															1				2	8		1	5		2								
	Streptomycin	0					1					2	3	2	1	2	2	3	1			1													
Amphenicols																																			
	Florfenicol	0																							1	1	3	1	1	1					
Cephalosporins																																			
	Cefoperazone																						1				3	1	1	1					
	Ceftazidim	0																	1		1		1	2	3		6	2	1	1	1				
Fluoroquinolones																																			
	Ciprofloxacin	0																									6				3	10			
	Enrofloxacin	0																									3	2	2	4	8				
Quinolones																																			
	Nalidixic acid	0																				1	2		1	1	9			1	4	1			
Tetracyclines																																			
	Tetracyclin	0												1					1			1	4	1	1	2	7	1							
	Trimethoprim	0																							1	1		2	2	1					

Table Antimicrobial susceptibility testing of S. Agona in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Agona																																			
Pigs - at farm - Surveillance																																			
Isolates out of a monitoring programme																																			
Number of isolates available in the laboratory																																			
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
Antimicrobials:	Break point	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		
Aminoglycosides																																			
Gentamicin	0															1		1																	
Streptomycin	0			1					1																										
Cephalosporins																																			
Ceftazidim	0																					1	1												
Fluoroquinolones																																			
Ciprofloxacin	0																									1		1							
Enrofloxacin	0																								2										
Quinolones																																			
Nalidixic acid	0																1						1												
Tetracyclines																																			
Tetracyclin	0																													2					

Table Antimicrobial susceptibility testing of S. Agona in carcass - Meat from pig - chilled - at slaughterhouse - animal sample - carcass swabs - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Agona			Meat from pig - carcass - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																		
Isolates out of a monitoring programme	no																																				
		1																																			
Number of isolates available in the laboratory																																					
Antimicrobials:		Break point	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			
Aminoglycosides		12	1	0																	1																
Gentamicin		11	1	1					1																												
Streptomycin																																					
Amphenicols		12	1	0																			1														
Chloramphenicol																																					
Cephalosporins		14	1	0																							1										
Cefotaxim		14	1	1										1																							
Ceftazidim																																					
Fluoroquinolones		15	1	0																							1										
Ciprofloxacin		16	1	0																					1												
Enrofloxacin																																					
Penicillins		13	1	0																	1																
Ampicillin																																					
Quinolones		13	1	0															1																		
Nalidixic acid																																					
Sulfonamides		12	1	0																1																	
Sulfonamide																																					
Tetracyclines		14	1	1																																	
Tetracyclin		10	1	0																							1										
Trimethoprim																																					

Table Antimicrobial susceptibility testing in S. Agona

n = Number of resistant isolates		
S. Agona		
Meat from pig		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		1
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	1	
Streptomycin	1	
Amphenicols		
Chloramphenicol	1	
Cephalosporins		
Cefotaxim	1	
Ceftazidim	1	
Fluoroquinolones		
Ciprofloxacin	1	
Enrofloxacin	1	
Fully sensitive	1	1
Penicillins		
Ampicillin	1	
Quinolones		
Nalidixic acid	1	
Resistant to 1 antimicrobial	1	
Resistant to 2 antimicrobials	1	
Resistant to 3 antimicrobials	1	
Resistant to 4 antimicrobials	1	
Resistant to >4 antimicrobials	1	
Sulfonamides		
Sulfonamide	1	
Tetracyclines		
Tetracyclin	1	
Trimethoprim	1	

Table Antimicrobial susceptibility testing of S. Anatum in Cattle (bovine animals) - at farm - Surveillance - quantitative data [Diffusion method]

S. Anatum			Cattle (bovine animals) - at farm - Surveillance																														
Isolates out of a monitoring programme																																	
Number of isolates available in the laboratory																																	
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
Break point	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:																																	
Aminoglycosides																																	
Gentamicin		0																	1														
Streptomycin		0													1																		
Cephalosporins																																	
Ceftazidim		0																									1						
Fluoroquinolones																																	
Ciprofloxacin		0																										1					
Enrofloxacin		0																												1			
Quinolones																																	
Nalidixic acid		0																												1			
Tetracyclines																																	
Tetracyclin		0																													1		

Table Antimicrobial susceptibility testing of *S. Anatum* in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Anatum																																					
Pigs - at farm - Surveillance																																					
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					
Antimicrobials:		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
	Break point	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				
Aminoglycosides																																					
Gentamicin	0																	1																			
Streptomycin	0									1																											
Amphenicols																																					
Florfenicol	0																	1																			
Cephalosporins																																					
Cefoperazone																										1											
Ceftazidim	0																									1											
Fluoroquinolones																																					
Ciprofloxacin	0																										1										
Enrofloxacin	0																											1									
Quinolones																																					
Nalidixic acid	0																												1								
Tetracyclines																																					
Tetracyclin	0																		1																		
Trimethoprim	0																															1					

Table Antimicrobial susceptibility testing of S. Bredeney in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Bredeney		Pigs - at farm - Surveillance																																
Isolates out of a monitoring programme																																		
	Number of isolates available in the laboratory																																	
Antimicrobials:	Break point	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	
	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
Aminoglycosides																																		
Gentamicin	0			3													1																	
Streptomycin	0			5																														
Amphenicols																																		
Chloramphenicol	0																	1	1								1							
Florfenicol	0																	2			1													
Cephalosporins																																		
Cefoperazone																		1					2	1										
Cefotaxim	0																					1				1			2					
Cefpodoxime																				1						2	1							
Ceftazidim	0																							2		2	1							
Fluoroquinolones																																		
Ciprofloxacin	0																		1	1	1			1					1					
Enrofloxacin	0			2															1			1		1										
Penicillins																																		
Ampicillin	0			1																														
Quinolones																																		
Nalidixic acid	0			3																	1													
Sulfonamides																																		
Sulfonamide	0			4																														
Tetracyclines																																		
Tetracyclin	0			2												1																		
Trimethoprim	0			1														1														1	1	

Table Antimicrobial susceptibility testing in S. Bredeney

n = Number of resistant isolates				
S. Bredeney				
	Meat from pig		Meat from broilers (Gallus gallus)	
Isolates out of a monitoring programme	no		no	
Number of isolates available in the laboratory	3		2	
Antimicrobials:	N	n	N	n
Aminoglycosides				
Gentamicin	3		2	
Streptomycin	3		2	2
Amphenicols				
Chloramphenicol	3			
Cephalosporins				
Cefotaxim	3		2	
Ceftazidim	3		2	
Fluoroquinolones				
Ciprofloxacin	3		2	
Enrofloxacin	3		2	
Fully sensitive	3	3	2	
Penicillins				
Ampicillin	3		2	1
Quinolones				
Nalidixic acid	3		2	
Resistant to 1 antimicrobial	3		2	1
Resistant to 2 antimicrobials	3		2	1
Resistant to 3 antimicrobials	3		2	
Resistant to 4 antimicrobials	3		2	
Resistant to >4 antimicrobials	3		2	
Sulfonamides				
Sulfonamide	1			
Tetracyclines				
Tetracyclin	3		2	
Trimethoprim	3			

Table Antimicrobial susceptibility testing of S. Bredeney in meat products - Meat from pig - unspecified, ready-to-eat - at retail - environmental sample - Surveillance - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Bredeney																																					
Meat from pig - meat products - unspecified, ready-to-eat - at retail - environmental sample - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	yes																																				
	3																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																					
Aminoglycosides																																					
Gentamicin	12	3	0												2																						
Streptomycin	11	3	0								1	2																									
Amphenicols																																					
Chloramphenicol	12	3	0																			1	2														
Cephalosporins																																					
Cefotaxim	14	3	0																				2			1											
Ceftazidim	14	3	0										1						1	1																	
Fluoroquinolones																																					
Ciprofloxacin	15	3	0																				2	1													
Enrofloxacin	16	3	0																				1	1	1												
Penicillins																																					
Ampicillin	13	3	0										1						1																		
Quinolones																																					
Nalidixic acid	13	3	0																1			1	1														
Sulfonamides																																					
Sulfonamide	12	1	0																					1													
Tetracyclines																																					
Tetracyclin	14	3	0															1	2																		
Trimethoprim	10	3	0																							1	1	1									

Table Antimicrobial susceptibility testing of S. Bredeney in carcass - Meat from broilers (Gallus gallus) - chilled - at retail - environmental sample - Surveillance - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Bredeney																																					
Meat from broilers (Gallus gallus) - carcass - chilled - at retail - environmental sample - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme		yes																																			
Number of isolates available in the laboratory		2																																			
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																					
Antimicrobials:	Break point	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				
Aminoglycosides																																					
Gentamicin	12	2	0										1	1																							
Streptomycin	11	2	2				1	1																													
Amphenicols																																					
Chloramphenicol	12	2	0																1				1														
Cephalosporins																																					
Cefotaxim	14	2	0															1			1																
Ceftazidim	14	2	0															1	1																		
Fluoroquinolones																																					
Ciprofloxacin	15	2	0															1				1															
Enrofloxacin	16	2	0																		1			1													
Penicillins																																					
Ampicillin	13	2	1	1																1																	
Quinolones																																					
Nalidixic acid	13	2	0															2																			
Tetracyclines																																					
Tetracyclin	14	2	0															1	1																		
Trimethoprim	10	2	1	1																																	

Table Antimicrobial susceptibility testing of S. Choleraesuis in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Choleraesuis			Pigs - at farm - Surveillance																																	
Isolates out of a monitoring programme	Number of isolates available in the laboratory	Break point	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
			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:																																				
Aminoglycosides																																				
Gentamicin	0															3	1	10	5	6	1															
Amphenicols																																				
Chloramphenicol	0																		1	1			4													
Florfenicol	0																				2	2	4	2	1	1										
Cephalosporins																																				
Cefoperazone																		1	1			1		1	2	1		2	1	1						
Cefotaxim	0																						2					3	1							
Cefpodoxime																	1				1	1	2		1											
Ceftazidim	0																1				1		3			1		6	4					1		
Fluoroquinolones																																				
Enrofloxacin	0					6										1		5	3	3	1	4	3													
Penicillins																																				
Ampicillin	0										1											2		2	1											
Quinolones																																				
Nalidixic acid	0				25																		1													
Sulfonamides																																				
Sulfonamide	0				5																		1													
Tetracyclines																																				
Tetracyclin	0				22				1						1			1	1																	
Trimethoprim	0				1																					2		3		1				5		

Table Antimicrobial susceptibility testing of S. Concord in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Concord																																			
Pigs - at farm - Surveillance																																			
Isolates out of a monitoring programme																																			
Number of isolates available in the laboratory																																			
Antimicrobials:	Break point	N	n	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																															
				<=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		
Aminoglycosides																																			
Gentamicin	0																1																		
Streptomycin	0												1																						
Cephalosporins																																			
Ceftazidim	0																			1		1													
Fluoroquinolones																																			
Ciprofloxacin	0																															1			
Enrofloxacin	0																					1			1										
Quinolones																																			
Nalidixic acid	0																	1		1															
Tetracyclines																																			
Tetracyclin	0																															1			

Table Antimicrobial susceptibility testing of S. Derby in Gallus gallus (fowl) and turkeys - at farm - Surveillance - quantitative data [Diffusion method]

S. Derby																																					
Gallus gallus (fowl) and turkeys - at farm - Surveillance																																					
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					
Antimicrobials:		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
	Break point	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				
Aminoglycosides																																					
Gentamicin	0																			1																	
Streptomycin	0															1																					
Amphenicols																																					
Florfenicol	0																						1														
Cephalosporins																																					
Cefoperazone																										1											
Ceftazidim	0																									1											
Fluoroquinolones																																					
Ciprofloxacin	0																															1					
Enrofloxacin	0																														1						
Quinolones																																					
Nalidixic acid	0																							1													
Tetracyclines																																					
Tetracyclin	0															1																					
Trimethoprim	0																															1					

Table Antimicrobial susceptibility testing of S. Derby in Meat from bovine animals - at slaughterhouse - animal sample - carcass swabs - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Derby																																					
Meat from bovine animals - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	yes																																				
	1																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
Aminoglycosides																																					
Gentamicin	12	1	0												1																						
Streptomycin	11	1	1	1																																	
Amphenicols																																					
Chloramphenicol	12	1	0																					1													
Cephalosporins																																					
Cefotaxim	14	1	0																			1															
Ceftazidim	14	1	0																1																		
Fluoroquinolones																																					
Ciprofloxacin	15	1	0																				1														
Enrofloxacin	16	1	0																							1											
Penicillins																																					
Ampicillin	13	1	0																		1																
Quinolones																																					
Nalidixic acid	13	1	0																				1														
Tetracyclines																																					
Tetracyclin	14	1	1	1																																	

Table Antimicrobial susceptibility testing of S. Derby in carcass - Meat from pig - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance - quantitative data [Diffusion method]

S. Derby			Meat from pig - carcass - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance																																
Isolates out of a monitoring programme	no	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
		Break point	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:																																			
Aminoglycosides																																			
	Gentamicin	12	8	0										1	2	2	1	1																	
	Streptomycin	11	8	4	3	1					2	1	1																						
Amphenicols																																			
	Chloramphenicol	12	8	0																		1		3	4										
Cephalosporins																																			
	Cefotaxim	14	8	0														1								6									
	Ceftazidim	14	8	4						1	2		1					2	1	1															
Fluoroquinolones																																			
	Ciprofloxacin	15	8	0														1					1			1	2	3							
	Enrofloxacin	16	6	0														1								3	2								
Penicillins																																			
	Ampicillin	13	8	0										1	1	1	1		2			1			1										
Quinolones																																			
	Nalidixic acid	13	8	1	1													1	1			3	1	1											
Sulfonamides																																			
	Sulfonamide	12	2	0													1				1														
Tetracyclines																																			
	Tetracyclin	14	8	7	5		1	1																						1					
	Trimethoprim	10	6	0																								2	2	2					

Table Antimicrobial susceptibility testing in S. Derby

n = Number of resistant isolates				
	S. Derby			
	Meat from pig		Meat from bovine animals	
Isolates out of a monitoring programme	no		no	
Number of isolates available in the laboratory	8		1	
Antimicrobials:	N	n	N	n
Aminoglycosides				
Gentamicin	8		1	
Streptomycin	8		1	1
Amphenicols				
Chloramphenicol	8		1	
Cephalosporins				
Cefotaxim	8		1	
Ceftazidim	8		1	
Fluoroquinolones				
Ciprofloxacin	8		1	
Enrofloxacin	6			
Penicillins				
Ampicillin	8		1	
Quinolones				
Nalidixic acid	8		1	
Resistant to 1 antimicrobial	8	2	1	
Resistant to 2 antimicrobials	8	4	1	1
Resistant to 3 antimicrobials	8	1	1	
Resistant to 4 antimicrobials	8	1	1	
Resistant to >4 antimicrobials	8		1	
Sulfonamides				
Sulfonamide	2			
Tetracyclines				
Tetracyclin	8		1	1
Trimethoprim	6		1	

Table Antimicrobial susceptibility testing of S. Djugu in Gallus gallus (fowl) - at farm - Surveillance - quantitative data [Diffusion method]

S. Djugu		Gallus gallus (fowl) - at farm - Surveillance																																
Isolates out of a monitoring programme																																		
Number of isolates available in the laboratory																																		
		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																
Antimicrobials:	Break point	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	
Aminoglycosides																																		
	Gentamicin	0														3	2	6	1		1													
	Streptomycin	0		1					4	3	1	2		2	1																			
Amphenicols																																		
	Chloramphenicol	0																3	1	2	1													
	Florfenicol	0														1		2	4				1											
Cephalosporins																																		
	Cefoperazone																		4	1	1		1											
	Cefotaxim	0																				2	2		1	1								
	Cefpodoxime																			1	4		1			1								
	Ceftazidim	0		1												1		1	1	1	2	1	4		1									
Fluoroquinolones																																		
	Ciprofloxacin	0																					6		1			2		2	1	1		
	Enrofloxacin	0																1		2	2		2				1		5					
Quinolones																																		
	Nalidixic acid	0		1									1					3			1	2	1	2	1									
Sulfonamides																																		
	Sulfonamide	0							4	3																								
Tetracyclines																																		
	Tetracyclin	0									1		3			2	2		1	1	1	1												
	Trimethoprim	0																																

Table Antimicrobial susceptibility testing of S. Djugu in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Djugu																																		
Pigs - at farm - Surveillance																																		
Isolates out of a monitoring programme																																		
Number of isolates available in the laboratory																																		
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																		
Antimicrobials:	Break point	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	
Aminoglycosides																																		
Gentamicin	0																1	6	1															
Streptomycin	0			7									1																					
Cephalosporins																																		
Ceftazidim	0																					1	4	1	1			1						
Fluoroquinolones																																		
Ciprofloxacin	0																	1				1	3	1	1			1						
Enrofloxacin	0												1						3	2		1	1	1										
Quinolones																																		
Nalidixic acid	0			7																		1												
Tetracyclines																																		
Tetracyclin	0			7																	1													

Table Antimicrobial susceptibility testing in S. Djugu

n = Number of resistant isolates		
S. Djugu		
Meat from broilers (Gallus gallus)		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		1
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	1	
Streptomycin	1	1
Amphenicols		
Chloramphenicol	1	
Cephalosporins		
Cefotaxim	1	
Ceftazidim	1	
Fluoroquinolones		
Ciprofloxacin	1	
Penicillins		
Ampicillin	1	
Quinolones		
Nalidixic acid	1	1
Resistant to 1 antimicrobial	1	
Resistant to 2 antimicrobials	1	
Resistant to 3 antimicrobials	1	
Resistant to 4 antimicrobials	1	1
Resistant to >4 antimicrobials	1	
Sulfonamides		
Sulfonamide	1	1
Tetracyclines		
Tetracyclin	1	1

Table Antimicrobial susceptibility testing of S. Djugu in carcass - Meat from broilers (Gallus gallus) - chilled - at slaughterhouse - animal sample - Surveillance - carcass swabs - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Djugu																																					
Meat from broilers (Gallus gallus) - carcass - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	no																																				
	1																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																					
Aminoglycosides																																					
Gentamicin	12	1	0													1																					
Streptomycin	11	1	1			1																															
Amphenicols																																					
Chloramphenicol	12	1	0																					1													
Cephalosporins																																					
Cefotaxim	14	1	0																						1												
Ceftazidim	14	1	0										1																								
Fluoroquinolones																																					
Ciprofloxacin	15	1	0																						1												
Penicillins																																					
Ampicillin	13	1	0													1																					
Quinolones																																					
Nalidixic acid	13	1	1	1																																	
Sulfonamides																																					
Sulfonamide	12	1	1	1																																	
Tetracyclines																																					
Tetracyclin	14	1	1				1																														

Table Antimicrobial susceptibility testing of S. Enteritidis in Chinchillas - at farm - Surveillance - quantitative data [Diffusion method]

S. Enteritidis																																					
Chinchillas - at farm - Surveillance																																					
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					
Antimicrobials:		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
Break point	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					
Aminoglycosides																																					
Gentamicin	0														1	1																					
Streptomycin	0											2																									
Amphenicols																																					
Florfenicol	0																				1	1															
Cephalosporins																																					
Cefoperazone																							1	1													
Ceftazidim	0																					1															
Fluoroquinolones																																					
Ciprofloxacin	0																							1			1										
Enrofloxacin	0																					1			1												
Quinolones																																					
Nalidixic acid	0																			1	1																
Tetracyclines																																					
Tetracyclin	0																		1	1																	
Trimethoprim	0																															2					

Table Antimicrobial susceptibility testing of S. Enteritidis in Ducks - at farm - Surveillance - quantitative data [Diffusion method]

S. Enteritidis																																					
Ducks - at farm - Surveillance																																					
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					
Antimicrobials:		Break point	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			
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																					
Aminoglycosides																																					
Gentamicin		0														1	3	8	1																		
Streptomycin		0					2	1			2	1	3				2	1	2																		
Amphenicols																																					
Florfenicol		0															1						1	4	6	1											
Cephalosporins																																					
Cefoperazone																								7	3	1	2										
Ceftazidim		0															1							6	2	2	2	1									
Fluoroquinolones																																					
Ciprofloxacin		0																								3		9	2								
Enrofloxacin		0																						3	6	2	1	2									
Quinolones																																					
Nalidixic acid		0																			1	4	3	4	2												
Tetracyclines																																					
Tetracyclin		0																	4		3	2	2	3													
Trimethoprim		0																						1	1	2	3	1	5								

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[illegible]

Table Antimicrobial susceptibility testing of S. Enteritidis in Ostriches - at farm - Surveillance - quantitative data [Diffusion method]

S. Enteritidis																																	
Ostriches - at farm - Surveillance																																	
Isolates out of a monitoring programme																																	
Number of isolates available in the laboratory																																	
Antimicrobials:	Break point	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
	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																
Aminoglycosides																																	
Gentamicin	0																	1															
Streptomycin	0													1																			
Amphenicols																																	
Florfenicol	0																								1								
Cephalosporins																																	
Cefoperazone																								1									
Ceftazidim	0																									1							
Fluoroquinolones																																	
Ciprofloxacin	0																										1						
Enrofloxacin	0																	1															
Quinolones																																	
Nalidixic acid	0																											1					
Tetracyclines																																	
Tetracyclin	0																										1						
Trimethoprim	0																															1	

Table Antimicrobial susceptibility testing of S. Enteritidis in Wild boars - at farm - Surveillance - quantitative data [Diffusion method]

S. Enteritidis																																					
Wild boars - at farm - Surveillance																																					
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					

Table Antimicrobial susceptibility testing of S. Enteritidis in animals

n = Number of resistant isolates														
S. Enteritidis														
	Wild boars - in total - Surveillance		Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Turkeys		Gallus gallus (fowl) - laying hens		Gallus gallus (fowl) - broilers	
Isolates out of a monitoring programme	no		no		no		no		no		no		no	
Number of isolates available in the laboratory	0		0		0		0		0		0		0	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides														
Gentamicin	1	0									16	0	5	0
Streptomycin	1	0									16	0	5	2
Amphenicols														
Chloramphenicol	1	0												
Cephalosporins														
Ceftazidim	1	0												
Fluoroquinolones														
Ciprofloxacin	1	0												
Enrofloxacin	1	0												
Resistant to 1 antimicrobial	1	0												
Resistant to 2 antimicrobials	1	0												
Resistant to 3 antimicrobials	1	0												
Resistant to 4 antimicrobials	1	0												
Resistant to >4 antimicrobials	1	0												

Table Antimicrobial susceptibility testing of S. Enteritidis in Geese - in total - Surveillance - quantitative data [Diffusion method]

S. Enteritidis																																
Geese - in total - Surveillance																																
Isolates out of a monitoring programme																																
Number of isolates available in the laboratory																																
Antimicrobials:		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																														
Break point	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
Aminoglycosides																																
Gentamicin	0															1		1														
Streptomycin	0									1		1																				
Amphenicols																																
Florfenicol	0																					1										
Cephalosporins																																
Cefoperazone																									2							
Ceftazidim	0																1								1							
Fluoroquinolones																																
Ciprofloxacin	0																								1				1			
Enrofloxacin	0																								1		1					
Quinolones																																
Nalidixic acid	0																		1	1												
Tetracyclines																																
Tetracyclin	0															1																
Trimethoprim	0																									2						

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

S. Enteritidis		Gallus gallus (fowl) - at farm - Surveillance																																		
Isolates out of a monitoring programme	Number of isolates available in the laboratory																																			
Antimicrobials:		Break point	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		
Aminoglycosides																																				
	Gentamicin	0												2	1		2	2	1	3	5	2	2	1												
	Streptomycin	0							1	1			3	2	1	2	5	1	3	2																
Amphenicols																																				
	Chloramphenicol	0		1											1						2	3	2													
	Florfenicol	0		1												1			1			1	3	7	1					1						
Cephalosporins																																				
	Cefoperazone																						1	4	1	6	1			3						
	Cefotaxim	0																	1			1				1	1		4							
	Cefpodoxime																				1		2	4	2											
	Ceftazidim	0										1							1	1		1		3	2	2	5	4	1							
Fluoroquinolones																																				
	Ciprofloxacin	0															1			1		2	1	5	2	3	1		3	1	1					
	Enrofloxacin	0		1												2		2	1	3		2	1	2	2	1	1	1	2							
Penicillins																																				
	Ampicillin	0		1																2	1	3	2													
Quinolones																																				
	Nalidixic acid	0		18																					2	1										
Sulfonamides																																				
	Sulfonamide	0																1		2	2			1	3											
Tetracyclines																																				
	Tetracyclin	0		3								2	1		1						1		4	3	5	1										
	Trimethoprim	0		1																		1		2	1	4	1	6								

Table Antimicrobial susceptibility testing in S. Enteritidis

n = Number of resistant isolates		
S. Enteritidis		
Meat from broilers (Gallus gallus)		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		16
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	16	1
Streptomycin	16	1
Amphenicols		
Chloramphenicol	16	
Cephalosporins		
Cefotaxim	16	
Ceftazidim	16	
Fluoroquinolones		
Ciprofloxacin	16	1
Enrofloxacin	6	
Fully sensitive	16	1
Penicillins		
Ampicillin	16	1
Quinolones		
Nalidixic acid	16	15
Resistant to 1 antimicrobial	16	14
Resistant to 2 antimicrobials	16	
Resistant to 3 antimicrobials	16	
Resistant to 4 antimicrobials	16	1
Resistant to >4 antimicrobials	16	
Sulfonamides		
Sulfonamide	11	
Tetracyclines		
Tetracyclin	16	
Trimethoprim	6	

Table Antimicrobial susceptibility testing of S. Enteritidis in carcass - Meat from pig - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Enteritidis																																					
Meat from pig - carcass - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	yes																																				
	3																																				
Number of isolates available in the laboratory																																					
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																					
Antimicrobials:	Break point	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				
Aminoglycosides																																					
Gentamicin	12	3	0											1		1																					
Streptomycin	11	3	0							1							1																				
Amphenicols																																					
Chloramphenicol	12	3	0																			1	2														
Cephalosporins																																					
Cefotaxim	14	3	0																			1			1		1										
Ceftazidim	14	3	0											1									1														
Fluoroquinolones																																					
Ciprofloxacin	15	3	0																								1		2								
Enrofloxacin	16	1	0																				1														
Penicillins																																					
Ampicillin	13	3	0											1					1																		
Quinolones																																					
Nalidixic acid	13	3	0																1		1																
Sulfonamides																																					
Sulfonamide	12	3	0											1		1																					
Tetracyclines																																					
Tetracyclin	14	3	0																	2		1															
Trimethoprim	10	1	0																			1															

Table Antimicrobial susceptibility testing of *S. Enteritidis* in Meat from broilers (*Gallus gallus*) - carcass - at slaughterhouse - animal sample - Surveillance - objective sampling - quantitative data [Diffusion method]

S. Enteritidis		Meat from broilers (Gallus gallus) - carcass - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																
Isolates out of a monitoring programme	yes																																	
	16																																	
Number of isolates available in the laboratory																																		
Antimicrobials:		Break point	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
Aminoglycosides																																		
Gentamicin	12	16	1	1											6	1	7																	
Streptomycin	11	18	1				1					2	1	11					3															
Amphenicols																																		
Chloramphenicol	12	16	0																5	5	2		1	1	1									
Cephalosporins																																		
Cefotaxim	14	16	0																		1		11	3							1			
Ceftazidim	14	16	0										1						1	7	1		5		1									
Fluoroquinolones																																		
Ciprofloxacin	15	16	1								1						1	1	2				5	5		1								
Enrofloxacin	16	6	1							1							3	1							1									
Penicillins																																		
Ampicillin	13	16	1	1									5					1	4	5														
Quinolones																																		
Nalidixic acid	13	16	15	15															1															
Sulfonamides																																		
Sulfonamide	12	11	0														10	1																
Tetracyclines																																		
Tetracyclin	14	16	0															1	12		1	1	1											
Trimethoprim	10	6	0										1					1								2		2						

Table Antimicrobial susceptibility testing of S. Fyris in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Fyris																																			
Pigs - at farm - Surveillance																																			
Isolates out of a monitoring programme																																			
Number of isolates available in the laboratory																																			
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
Antimicrobials:	Break point	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		
Aminoglycosides																																			
Gentamicin	0																	1																	
Streptomycin	0			1																															
Cephalosporins																																			
Ceftazidim	0																						1												
Fluoroquinolones																																			
Ciprofloxacin	0																											1							
Enrofloxacin	0																						1												
Quinolones																																			
Nalidixic acid	0																						1												
Tetracyclines																																			
Tetracyclin	0																	1																	

Table Antimicrobial susceptibility testing of S. Give in Gallus gallus (fowl) and turkeys - at farm - Surveillance - quantitative data [Diffusion method]

S. Give																																			
Gallus gallus (fowl) and turkeys - at farm - Surveillance																																			
Isolates out of a monitoring programme																																			
Number of isolates available in the laboratory																																			
Antimicrobials:		Break point	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	
Aminoglycosides																																			
Gentamicin		0							1										3	1															
Streptomycin		0			5																														
Amphenicols																																			
Chloramphenicol		0																			1														
Florfenicol		0																				1	1	1	1	2									
Cephalosporins																																			
Cefotaxim		0																												1					
Fluoroquinolones																																			
Ciprofloxacin		0																	1											3				1	
Enrofloxacin		0																				1								4					
Penicillins																																			
Ampicillin		0																		1															
Quinolones																																			
Nalidixic acid		0			1																2	1	1	1											
Sulfonamides																																			
Sulfonamide		0																			1														
Tetracyclines																																			
Tetracyclin		0			5																														

Table Antimicrobial susceptibility testing of S. Give in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Give			Pigs - at farm - Surveillance																															
Isolates out of a monitoring programme																																		
Number of isolates available in the laboratory																																		
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																		
Antimicrobials:	Break point	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	
Aminoglycosides																																		
	0			3													1																	
	0			5																														
Amphenicols																																		
	0																1			2			1											
	0																				2	1	1											
Cephalosporins																																		
																	1					2	1											
	0																			1		1						2						
																			1			2				1								
	0																					2	2		2	1								
Fluoroquinolones																																		
	0																		1	1	1		1						1					
	0			2														1			1		1											
Quinolones																																		
	0			3													1			1														
Sulfonamides																																		
	0			4																														
Tetracyclines																																		
	0			5																														
	0			1													1															1		1
Trimethoprim																																		

Table Antimicrobial susceptibility testing of S. Give in Meat from pig - at retail - Surveillance - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Give																																					
Meat from pig - at retail - Surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	yes																																				
	6																																				
Number of isolates available in the laboratory																																					
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																					
Antimicrobials:	Break point	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				
Aminoglycosides																																					
Gentamicin	12	6	0									1		3	1			1																			
Streptomycin	11	6	1					1		1	2	2																									
Amphenicols																																					
Chloramphenicol	12	6	0																			1	2	1	2												
Cephalosporins																																					
Cefotaxim	14	6	0																			3	2					1									
Ceftazidim	14	6	1							1								1	2	1			1														
Fluoroquinolones																																					
Ciprofloxacin	15	6	0																			1	3						2								
Enrofloxacin	16	4	0																			1	2	1													
Penicillins																																					
Ampicillin	13	6	0															4	1	1																	
Quinolones																																					
Nalidixic acid	13	6	0															1	3	1	1																
Sulfonamides																																					
Sulfonamide	12	2	0																																		
Tetracyclines																																					
Tetracyclin	14	6	6	6																																	
Trimethoprim	10	4	0															1		1	1		1														

Table Antimicrobial susceptibility testing of S. Give in Meat from bovine animals - at slaughterhouse - animal sample - carcass swabs - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Give																																					
Meat from bovine animals - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	yes																																				
	1																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																					
Aminoglycosides																																					
Gentamicin	12	1	0											1																							
Streptomycin	11	1	0						1																												
Amphenicols																																					
Chloramphenicol	12	1	1	1																																	
Cephalosporins																																					
Cefotaxim	14	1	0																									1									
Ceftazidim	14	1	0										1																								
Fluoroquinolones																																					
Ciprofloxacin	15	1	0																												1						
Penicillins																																					
Ampicillin	13	1	1	1																																	
Quinolones																																					
Nalidixic acid	13	1	0																1																		
Sulfonamides																																					
Sulfonamide	12	1	0												1																						
Tetracyclines																																					
Tetracyclin	14	1	1	1																																	

Table Antimicrobial susceptibility testing in S. Give

n = Number of resistant isolates				
	S. Give			
	Meat from pig		Meat from broilers (Gallus gallus)	
	no		no	
Isolates out of a monitoring programme				
Number of isolates available in the laboratory	6		0	
Antimicrobials:	N	n	N	n
Aminoglycosides				
Gentamicin	6		1	
Streptomycin	6	1	1	
Amphenicols				
Chloramphenicol	6		1	1
Cephalosporins				
Cefotaxim	6		1	
Ceftazidim	6	1	1	
Fluoroquinolones				
Ciprofloxacin	6		1	
Enrofloxacin	4			
Fully sensitive	6		1	
Penicillins				
Ampicillin	6		1	1
Quinolones				
Nalidixic acid	6		1	
Resistant to 1 antimicrobial	6	5	1	
Resistant to 2 antimicrobials	6		1	
Resistant to 3 antimicrobials	6	1	1	1
Resistant to 4 antimicrobials	6		1	
Resistant to >4 antimicrobials	6		1	
Sulfonamides				
Sulfonamide	2		0	
Tetracyclines				
Tetracyclin	6	6	1	1
Trimethoprim	4		0	

Table Antimicrobial susceptibility testing of S. Glostrup in Gallus gallus (fowl) - at farm - Surveillance - quantitative data [Diffusion method]

S. Glostrup																																	
Gallus gallus (fowl) - at farm - Surveillance																																	
Isolates out of a monitoring programme																																	
Number of isolates available in the laboratory																																	
Antimicrobials:	Break point	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
	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																
Aminoglycosides	0																	2															
Gentamicin	0						1		1																								
Streptomycin																																	
Cephalosporins																																	
Ceftazidim	0																						1	1									
Fluoroquinolones																																	
Ciprofloxacin	0													1		1																	
Enrofloxacin	0								1		1																						
Quinolones																																	
Nalidixic acid	0			2																													
Tetracyclines																																	
Tetracyclin	0			2																													

Table Antimicrobial susceptibility testing of S. Glostrup in Cattle (bovine animals) - at farm - Surveillance - quantitative data [Diffusion method]

S. Glostrup			Cattle (bovine animals) - at farm - Surveillance																																		
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					
		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
Antimicrobials:	Break point	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				
Aminoglycosides																																					
	Gentamicin	0																1																			
	Streptomycin	0																1																			
Cephalosporins																																					
	Cefoperazone																						1														
	Ceftazidim	0																						1													
Fluoroquinolones																																					
	Ciprofloxacin	0																														1					
	Enrofloxacin	0																												1							
Quinolones																																					
	Nalidixic acid	0																						1													
Tetracyclines																																					
	Tetracyclin	0																										1									
	Trimethoprim	0																														1					

Table Antimicrobial susceptibility testing in S. Glostrup

n = Number of resistant isolates		
S. Glostrup		
Meat from broilers (Gallus gallus)		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		1
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	1	
Streptomycin	1	1
Amphenicols		
Chloramphenicol	1	
Cephalosporins		
Cefotaxim	1	
Ceftazidim	1	
Fluoroquinolones		
Ciprofloxacin	1	1
Enrofloxacin	1	
Fully sensitive	1	
Penicillins		
Ampicillin	1	1
Quinolones		
Nalidixic acid	1	1
Resistant to 1 antimicrobial	1	
Resistant to 2 antimicrobials	1	
Resistant to 4 antimicrobials	1	
Resistant to >4 antimicrobials	1	1
Tetracyclines		
Tetracyclin	1	1
Trimethoprim	1	

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[illegible]

Table Antimicrobial susceptibility testing of S. Hadar in Gallus gallus (fowl) - at farm - Surveillance - quantitative data [Diffusion method]

S. Hadar																																			
Gallus gallus (fowl) - at farm - Surveillance																																			
Isolates out of a monitoring programme																																			
	Number of isolates available in the laboratory																																		
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
Antimicrobials:	Break point	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		
Aminoglycosides																																			
Gentamicin	0																		5	4			2												
Streptomycin	0			2		1		5	3																										
Cephalosporins																																			
Ceftazidim	0																						1		2	7		1							
Fluoroquinolones																																			
Ciprofloxacin	0													1	4	2					1					1		2							
Enrofloxacin	0							2	3	2	1					1		1		1															
Quinolones																																			
Nalidixic acid	0			11																															
Tetracyclines																																			
Tetracyclin	0			11																															

Table Antimicrobial susceptibility testing in S. Hadar

n = Number of resistant isolates		
S. Hadar		
Meat from broilers (Gallus gallus)		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		14
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	14	
Streptomycin	14	14
Amphenicols		
Chloramphenicol	14	
Cephalosporins		
Cefotaxim	14	
Ceftazidim	14	12
Fluoroquinolones		
Ciprofloxacin	14	8
Enrofloxacin	14	
Fully sensitive	14	
Penicillins		
Ampicillin	14	10
Quinolones		
Nalidixic acid	14	14
Resistant to 1 antimicrobial	14	
Resistant to 2 antimicrobials	14	
Resistant to 3 antimicrobials	14	2
Resistant to 4 antimicrobials	14	2
Resistant to >4 antimicrobials	14	10
Sulfonamides		
Sulfonamide	7	1
Tetracyclines		
Tetracyclin	14	14
Trimethoprim	14	8

Table Antimicrobial susceptibility testing of S. Hadar in Meat from broilers (Gallus gallus) - offal - at retail - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Hadar		Meat from broilers (Gallus gallus) - offal - at retail - Surveillance - surveillance survey - objective sampling																																		
Isolates out of a monitoring programme	no																																			
		14																																		
Number of isolates available in the laboratory																																				
Antimicrobials:	Break point	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			
	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
Aminoglycosides																																				
Gentamicin	12	14	0									6	1				1	5																		
Streptomycin	11	14	14	7			3	3	1																											
Amphenicols																																				
Chloramphenicol	12	14	0														4		4	2	1	3														
Cephalosporins																																				
Cefotaxim	14	14	0										1	1	2	1	2					3		3	1											
Ceftazidim	14	14	12	1				1	2	4	1	3	2																							
Fluoroquinolones																																				
Ciprofloxacin	15	14	8			1			2	4			1	2						1	1	2														
Enrofloxacin	16	14	11			7		2	1				1	1	2																					
Penicillins																																				
Ampicillin	13	14	10	10									1	3																						
Quinolones																																				
Nalidixic acid	13	14	14			14																														
Sulfonamides																																				
Sulfonamide	12	7	1							1				1			1			2	1	1														
Tetracyclines																																				
Tetracyclin	14	14	14	14																																
Trimethoprim	10	14	8	8												1	1	1	1	3																

Table Antimicrobial susceptibility testing of S. Heidelberg in Gallus gallus (fowl) and turkeys - at farm - Surveillance - quantitative data [Diffusion method]

S. Heidelberg																																					
Gallus gallus (fowl) and turkeys - at farm - Surveillance																																					
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					
</																																					

Table Antimicrobial susceptibility testing of S. Infantis in carcass - Meat from broilers (Gallus gallus) - chilled - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Infantis																																					
Meat from broilers (Gallus gallus) - carcass - chilled - Surveillance - objective sampling																																					
Isolates out of a monitoring programme	no																																				
	2																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																				
Aminoglycosides																																					
Gentamicin	12	2	0													1	1																				
Streptomycin	11	2	1					1				1																									
Amphenicols																																					
Chloramphenicol	12	2	0																2																		
Cephalosporins																																					
Cefotaxim	14	2	0																			1															
Ceftazidim	14	2	2			1		1																													
Fluoroquinolones																																					
Ciprofloxacin	15	2	0													1													1								
Penicillins																																					
Ampicillin	13	2	0										1					1																			
Quinolones																																					
Nalidixic acid	13	2	1	1													1																				
Sulfonamides																																					
Sulfonamide	12	2	1	1													1																				
Tetracyclines																																					
Tetracyclin	14	2	0													1			1																		

Table Antimicrobial susceptibility testing of S. Infantis in Meat from bovine animals - at retail - environmental sample - Surveillance - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Infantis																																			
Meat from bovine animals - at retail - environmental sample - Surveillance - surveillance survey - objective sampling																																			
Isolates out of a monitoring programme	no																																		
	1																																		
Number of isolates available in the laboratory																																			
Antimicrobials:	Break point	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		
																																		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to	
Aminoglycosides																																			
Gentamicin	12	1	0											1																					
Streptomycin	11	1	1			1																													
Amphenicols																																			
Chloramphenicol	12	1	0															1																	
Cephalosporins																																			
Cefotaxim	14	1	0																										1						
Ceftazidim	14	1	1							1																									
Fluoroquinolones																																			
Ciprofloxacin	15	1	0																											1					
Penicillins																																			
Ampicillin	13	1	0															1																	
Quinolones																																			
Nalidixic acid	13	1	0															1																	
Sulfonamides																																			
Sulfonamide	12	1	0																	1															
Tetracyclines																																			
Tetracyclin	14	1	0																1																

Table Antimicrobial susceptibility testing of S. Infantis in intended to be eaten cooked - minced meat - Meat from pig - chilled - at processing plant - environmental sample - Surveillance - surveillance survey - objective sampling - objective sampling - quantitative data [Diffusion method]

S. Infantis		Meat from pig - minced meat - intended to be eaten cooked - chilled - at processing plant - environmental sample - Surveillance - surveillance survey - objective sampling																																		
Isolates out of a monitoring programme	no																																			
		4																																		
Number of isolates available in the laboratory																																				
Antimicrobials:		Break point	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		
Aminoglycosides		12	4	0										1	2																					
	Gentamicin	11	4	4	2				1	1																										
	Streptomycin																																			
Amphenicols		12	4	0																		1	1	2												
	Chloramphenicol																																			
Cephalosporins		14	4	0																					2	1			1							
	Cefotaxim	14	4	3				2					1	1																						
	Ceftazidim																																			
Fluoroquinolones		15	4	0																							1	1	1	1						
	Ciprofloxacin	16	1	0																					1											
	Enrofloxacin																																			
Penicillins		13	4	1	1															1	1	1														
	Ampicillin																																			
Quinolones		13	4	0														3				1														
	Nalidixic acid																																			
Sulfonamides		12	4	0									1							1	1						1									
	Sulfonamide																																			
Tetracyclines		14	4	1	1														1																	
	Tetracyclin	10	1	1	1																															
	Trimethoprim																																			

Table Antimicrobial susceptibility testing in *S. Infantis*

n = Number of resistant isolates						
	S. Infantis					
	Meat from pig		Meat from broilers (Gallus gallus)		Meat from bovine animals	
Isolates out of a monitoring programme	no		no		no	
Number of isolates available in the laboratory	4		2		1	
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides						
Gentamicin	4		2		1	
Streptomycin	4	4	2	1	1	1
Amphenicols						
Chloramphenicol	4		2		1	
Cephalosporins						
Cefotaxim	4		2		1	
Ceftazidim	4	3	2	2	1	1
Fluoroquinolones						
Ciprofloxacin	4		2		1	
Enrofloxacin	1					
Fully sensitive	4		2		1	
Penicillins						
Ampicillin	4	1	2		1	
Quinolones						
Nalidixic acid	4		2	1	1	
Resistant to 1 antimicrobial	4	1	2		1	
Resistant to 2 antimicrobials	4	2	2	1	1	1
Resistant to 3 antimicrobials	4		2	1	1	
Resistant to 4 antimicrobials	4	1	2		1	
Resistant to >4 antimicrobials	4		2		1	
Sulfonamides						
Sulfonamide	4		2	1		
Tetracyclines						
Tetracyclin	4	1	2		1	
Trimethoprim	1	1				

Table Antimicrobial susceptibility testing of S. Inganda in Cattle (bovine animals) - at farm - Surveillance - quantitative data [Diffusion method]

S. Inganda																																					
Cattle (bovine animals) - at farm - Surveillance																																					
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					
Antimicrobials:		Break point	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			
Aminoglycosides		0																1	3																		
Gentamicin		0																																			
Streptomycin		0										4																									
Amphenicols		0																1	1	1				1													
Cephalosporins																																					
Cefoperazone																											2	2									
Ceftazidim		0																							1	2					1						
Fluoroquinolones																																					
Ciprofloxacin		0																													4						
Enrofloxacin		0																										1	2		1						
Quinolones																																					
Nalidixic acid		0																								2	2										
Tetracyclines																																					
Tetracyclin		0																	2		1																
Trimethoprim		0																																			

Table Antimicrobial susceptibility testing of S. Isangi in Gallus gallus (fowl) - at farm - Surveillance - quantitative data [Diffusion method]

S. Isangi		Gallus gallus (fowl) - at farm - Surveillance																																
Isolates out of a monitoring programme	Number of isolates available in the laboratory	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																
		Break point	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:																																		
Aminoglycosides																																		
	Gentamicin	0																	1															
	Streptomycin	0									1																							
Amphenicols																																		
	Florfenicol	0																				1												
Cephalosporins																																		
	Cefoperazone																								1									
	Ceftazidim	0																								1								
Fluoroquinolones																																		
	Ciprofloxacin	0																															1	
	Enrofloxacin	0																													1			
Quinolones																																		
	Nalidixic acid	0																							1									
Tetracyclines																																		
	Tetracyclin	0																														1		
	Trimethoprim	0																																

Table Antimicrobial susceptibility testing of S. Kaduna in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Kaduna			Pigs - at farm - Surveillance																										
Isolates out of a monitoring programme																													
Number of isolates available in the laboratory																													

Table Antimicrobial susceptibility testing of S. Kambole in meat products - Meat from pig - unspecified, ready-to-eat - at retail - environmental sample - Surveillance - surveillance survey - quantitative data [Diffusion method]

S. Kambole																																					
Meat from pig - meat products - unspecified, ready-to-eat - at retail - environmental sample - Surveillance - surveillance survey																																					
Isolates out of a monitoring programme	no																																				
	2																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	N	n	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
				<=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				
Aminoglycosides																																					
Gentamicin	12	2	1												1																						
Streptomycin	11	2	0									1																									
Amphenicols																																					
Chloramphenicol	12	2	0															1																			
Cephalosporins																																					
Cefotaxim	14	2	0																					1													
Ceftazidim	14	2	1																					1													
Fluoroquinolones																																					
Ciprofloxacin	15	2	0																								1										
Penicillins																																					
Ampicillin	13	2	0															2																			
Quinolones																																					
Nalidixic acid	13	2	0															1	1																		
Sulfonamides																																					
Sulfonamide	12	2	0															2																			
Tetracyclines																																					
Tetracyclin	14	2	0																																		

Table Antimicrobial susceptibility testing in S. Kambole

n = Number of resistant isolates		
S. Kambole		
Meat from pig		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		2
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	2	1
Streptomycin	2	
Amphenicols		
Chloramphenicol	2	
Cephalosporins		
Cefotaxim	2	
Ceftazidim	2	2
Fluoroquinolones		
Ciprofloxacin	2	
Fully sensitive	2	1
Penicillins		
Ampicillin	2	
Quinolones		
Nalidixic acid	2	
Resistant to 1 antimicrobial	2	
Resistant to 2 antimicrobials	2	1
Resistant to 3 antimicrobials	2	
Resistant to 4 antimicrobials	2	
Resistant to >4 antimicrobials	2	
Sulfonamides		
Sulfonamide	2	
Tetracyclines		
Tetracyclin	2	

Table Antimicrobial susceptibility testing in S. Kedougou

n = Number of resistant isolates				
S. Kedougou				
	Meat from pig		Meat from bovine animals	
Isolates out of a monitoring programme	no		no	
Number of isolates available in the laboratory	5		2	
Antimicrobials:	N	n	N	n
Aminoglycosides				
Gentamicin	5		2	
Streptomycin	5		2	
Amphenicols				
Chloramphenicol	5		2	
Cephalosporins				
Cefotaxim	5		2	
Ceftazidim	5		2	
Fluoroquinolones				
Ciprofloxacin	5		2	
Enrofloxacin	4		1	
Fully sensitive	5		2	
Penicillins				
Ampicillin	5		2	
Quinolones				
Nalidixic acid	5		2	
Resistant to 1 antimicrobial	5		2	
Resistant to 2 antimicrobials	5	2	2	1
Resistant to 3 antimicrobials	5	3	2	
Resistant to 4 antimicrobials	5		2	
Resistant to >4 antimicrobials	5		2	
Sulfonamides				
Sulfonamide	1			
Tetracyclines				
Tetracyclin	5		2	1
Trimethoprim	4		1	

Table Antimicrobial susceptibility testing of S. Kedougou in Meat from bovine animals - at cutting plant - environmental sample - Surveillance - objective sampling - objective sampling - quantitative data [Diffusion method]

S. Kedougou																																				
Meat from bovine animals - at cutting plant - environmental sample - Surveillance - objective sampling																																				
Isolates out of a monitoring programme		no																																		
Number of isolates available in the laboratory		2																																		
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																				
Antimicrobials:	Break point	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			
Aminoglycosides																																				
Gentamicin	12	2	0												1																					
Streptomycin	11	2	0							1	1																									
Amphenicols																																				
Chloramphenicol	12	2	0																			1														
Cephalosporins																																				
Cefotaxim	14	2	0																						1						1					
Ceftazidim	14	2	0										2																							
Fluoroquinolones																																				
Ciprofloxacin	15	2	0																							1					1					
Enrofloxacin	16	1	0																				1													
Penicillins																																				
Ampicillin	13	2	0									1																								
Quinolones																																				
Nalidixic acid	13	2	0													1																				
Tetracyclines																																				
Tetracyclin	14	2	1	1																							1									
Trimethoprim	10	1	1	1																																

Table Antimicrobial susceptibility testing of S. Kedougou in Meat from pig - at slaughterhouse - animal sample - carcass swabs - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Kedougou																																					
Meat from pig - at slaughterhouse - animal sample - carcass swabs - Surveillance survey - objective sampling																																					
Isolates out of a monitoring programme		no																																			
Number of isolates available in the laboratory		5																																			
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																					
Antimicrobials:		Break point	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			
Aminoglycosides																																					
	Gentamicin	12	5	0								1			1	1	2																				
	Streptomycin	11	5	3	1				1	1	2																										
Amphenicols																																					
	Chloramphenicol	12	5	0																1			1	1	2												
Cephalosporins																																					
	Cefotaxim	14	5	0																	1	1		2	1												
	Ceftazidim	14	5	1							1						1	1		1	1																
Fluoroquinolones																																					
	Ciprofloxacin	15	5	0																				2	2			1									
	Enrofloxacin	16	4	0																				1	3												
Quinolones																																					
	Nalidixic acid	13	5	0													1			2	2																
Sulfonamides																																					
	Sulfonamide	12	1	0																	1																
Tetracyclines																																					
	Tetracyclin	14	5	4	4													1																			
	Trimethoprim	10	4	4	4																																

Table Antimicrobial susceptibility testing of S. Lexington in Cattle (bovine animals) - at farm - Surveillance - quantitative data [Diffusion method]

S. Lexington		Cattle (bovine animals) - at farm - Surveillance																															
Isolates out of a monitoring programme																																	
Number of isolates available in the laboratory																																	
		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																															
Antimicrobials:	Break point	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
Aminoglycosides																																	
	Gentamicin	0																		1													
	Streptomycin	0																1															
Amphenicols																																	
	Chloramphenicol	0																											1				
	Florfenicol	0																												1			
Cephalosporins																																	
	Cefoperazone																													1			
	Cefotaxim	0																														1	
	Cefpodoxime																														1		
	Ceftazidim	0																													1		
Fluoroquinolones																																	
	Ciprofloxacin	0																															1
	Enrofloxacin	0																											1				
Penicillins																																	
	Ampicillin	0																						1									
Quinolones																																	
	Nalidixic acid	0																							1								
Sulfonamides																																	
	Sulfonamide	0																													1		
Tetracyclines																																	
	Tetracyclin	0																		1													1
	Trimethoprim	0																															

Table Antimicrobial susceptibility testing of S. Livingstone in Gallus gallus (fowl) and turkeys - at farm - Surveillance - quantitative data [Diffusion method]

S. Livingstone			Gallus gallus (fowl) and turkeys - at farm - Surveillance																																		
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					
Antimicrobials:		Break point	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			
Aminoglycosides																																					
	Gentamicin	0																1	1																		
	Streptomycin	0					1		1																												
Amphenicols																																					
	Chloramphenicol	0																		1																	
	Florfenicol	0															1		1																		
Cephalosporins																																					
	Cefoperazone																							1	1												
	Cefotaxim	0																			1			1	1												
	Cefpodoxime																		2																		
	Ceftazidim	0																	2																		
Fluoroquinolones																																					
	Ciprofloxacin	0																						1	1												
	Enrofloxacin	0																					1	1													
Quinolones																																					
	Nalidixic acid	0																			1			1													
Sulfonamides																																					
	Sulfonamide	0															1		1																		
Tetracyclines																																					
	Tetracyclin	0																1		1																	
	Trimethoprim	0				1																															

Table Antimicrobial susceptibility testing of S. London in Solipeds, domestic - horses - at farm - Surveillance - quantitative data [Diffusion method]

S. London			Solipeds, domestic - horses - at farm - Surveillance																															
Isolates out of a monitoring programme																																		
Number of isolates available in the laboratory																																		
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																		
Antimicrobials:	Break point	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	
Aminoglycosides																																		
Gentamicin	0																	2																
Streptomycin	0												2																					
Amphenicols																																		
Florfenicol	0																					1			1									
Cephalosporins																																		
Cefoperazone																										1	1							
Ceftazidim	0																				1		1											
Fluoroquinolones																																		
Ciprofloxacin	0																													1	1			
Enrofloxacin	0																											2						
Quinolones																																		
Nalidixic acid	0																					1	1											
Tetracyclines																																		
Tetracyclin	0																	1								1								
Trimethoprim	0																								1		1							

Table Antimicrobial susceptibility testing of S. London in carcass - Meat from pig - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. London			Meat from pig - carcass - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																															
Isolates out of a monitoring programme	no																																	
	2																																	
Number of isolates available in the laboratory																																		
Antimicrobials:	Break point	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	
Aminoglycosides																																		
Gentamicin	12	2	0															1	1															
Streptomycin	11	2	1				1						1																					
Amphenicols																																		
Chloramphenicol	12	2	1	1																	1													
Cephalosporins																																		
Cefotaxim	14	2	0																			1		1										
Ceftazidim	14	2	2				1					1																						
Fluoroquinolones																																		
Ciprofloxacin	15	2	0																			1		1										
Enrofloxacin	16	2	0															1					1											
Penicillins																																		
Ampicillin	13	2	1	1								1																						
Quinolones																																		
Nalidixic acid	13	2	0											1				1																
Sulfonamides																																		
Sulfonamide	12	2	1					1																		1								
Tetracyclines																																		
Tetracyclin	14	2	1	1													1																	
Trimethoprim	10	2	1	1															1															

Table Antimicrobial susceptibility testing of S. London in offal - Meat from broilers (Gallus gallus) - unspecified - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. London																																			
Meat from broilers (Gallus gallus) - offal - unspecified - Surveillance survey - objective sampling																																			
Isolates out of a monitoring programme	no																																		
	2																																		
Number of isolates available in the laboratory																																			
Antimicrobials:	Break point	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		
	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																		
Aminoglycosides																																			
Gentamicin	12	2	2	1		1																													
Streptomycin	11	2	2	1		1																													
Amphenicols																																			
Chloramphenicol	12	2	0																			1					1								
Cephalosporins																																			
Cefotaxim	14	2	0																1			1													
Ceftazidim	14	2	1									1	1																						
Fluoroquinolones																																			
Ciprofloxacin	15	2	0																			1							1						
Penicillins																																			
Ampicillin	13	2	0													1		1																	
Quinolones																																			
Nalidixic acid	13	2	0															2																	
Sulfonamides																																			
Sulfonamide	12	2	1	1		1									1																				
Tetracyclines																																			
Tetracyclin	14	2	0																			1								1					

Table Antimicrobial susceptibility testing in S. London

n = Number of resistant isolates				
	S. London			
	Meat from pig		Meat from broilers (Gallus gallus)	
Isolates out of a monitoring programme	no		no	
Number of isolates available in the laboratory	2		2	
Antimicrobials:	N	n	N	n
Aminoglycosides				
Gentamicin	2		2	2
Streptomycin	2	1	2	2
Amphenicols				
Chloramphenicol	2	1	2	
Cephalosporins				
Cefotaxim	2		2	
Ceftazidim	2	2	2	1
Fluoroquinolones				
Ciprofloxacin	2		2	
Enrofloxacin	2			
Fully sensitive	2		2	
Penicillins				
Ampicillin	2	1	2	
Quinolones				
Nalidixic acid	2		2	
Resistant to 1 antimicrobial	2	1	2	
Resistant to 2 antimicrobials	2		2	1
Resistant to 3 antimicrobials	2		2	
Resistant to 4 antimicrobials	2		2	1
Resistant to >4 antimicrobials	2	1	2	
Sulfonamides				
Sulfonamide	2	1	2	1
Tetracyclines				
Tetracyclin	2	1	2	
Trimethoprim	2	1		

Table Antimicrobial susceptibility testing of S. Malakal in Solipeds, domestic - horses - at farm - Surveillance - quantitative data [Diffusion method]

S. Malakal																															
Solipeds, domestic - horses - at farm - Surveillance																															
Isolates out of a monitoring programme																															
Number of isolates available in the laboratory																															

Table Antimicrobial susceptibility testing of S. Mapo in Gallus gallus (fowl) - at farm - Surveillance - quantitative data [Diffusion method]

S. Mapo			Gallus gallus (fowl) - at farm - Surveillance																															
Isolates out of a monitoring programme																																		
Number of isolates available in the laboratory																																		
		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																
Antimicrobials:	Break point	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	
Aminoglycosides		0																																
Gentamicin		0																																
Streptomycin															1																			
Cephalosporins																																		
Ceftazidim		0																									1							
Fluoroquinolones																																		
Ciprofloxacin		0																										1						
Enrofloxacin		0																															1	
Quinolones																																		
Nalidixic acid		0																									1							
Tetracyclines																																		
Tetracyclin		0																																

Table Antimicrobial susceptibility testing of S. Montevideo in Gallus gallus (fowl) - at farm - Surveillance - quantitative data [Diffusion method]

S. Montevideo																																			
Gallus gallus (fowl) - at farm - Surveillance																																			
Isolates out of a monitoring programme																																			
Number of isolates available in the laboratory																																			
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
Antimicrobials:	Break point	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		
Aminoglycosides																																			
Gentamicin	0																			2															
Streptomycin	0			1										1																					
Amphenicols																																			
Chloramphenicol	0																			1															
Florfenicol	0																			1															
Cephalosporins																																			
Cefoperazone																							1												
Cefotaxim	0																											1							
Cefpodoxime																						1													
Ceftazidim	0														1													1							
Fluoroquinolones																																			
Enrofloxacin	0																1																1		
Penicillins																																			
Ampicillin	0																				1														
Tetracyclines																																			
Tetracyclin	0											1																				1			

Table Antimicrobial susceptibility testing of S. Namibia in Gallus gallus (fowl) and turkeys - at farm - Surveillance - quantitative data [Diffusion method]

S. Namibia																																					
Gallus gallus (fowl) and turkeys - at farm - Surveillance																																					
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					

Table Antimicrobial susceptibility testing in S. Newport

n = Number of resistant isolates		
S. Newport		
Meat from pig		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		1
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	1	
Streptomycin	1	1
Amphenicols		
Chloramphenicol	1	
Cephalosporins		
Cefotaxim	1	
Ceftazidim	1	
Fluoroquinolones		
Ciprofloxacin	1	
Fully sensitive	1	
Penicillins		
Ampicillin	1	
Quinolones		
Nalidixic acid	1	
Resistant to 1 antimicrobial	1	1
Resistant to 2 antimicrobials	1	
Resistant to 3 antimicrobials	1	
Resistant to 4 antimicrobials	1	
Resistant to >4 antimicrobials	1	
Sulfonamides		
Sulfonamide	1	
Tetracyclines		
Tetracyclin	1	
Trimethoprim	1	

Table Antimicrobial susceptibility testing of S. Newport in carcass - Meat from pig - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Newport																																			
Meat from pig - carcass - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																			
Isolates out of a monitoring programme	no																																		
	1																																		
Number of isolates available in the laboratory																																			
Antimicrobials:	Break point	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		
Aminoglycosides	12	1	0										1																						
Gentamicin	11	1	1					1																											
Streptomycin																																			
Amphenicols	12	1	0																					1											
Chloramphenicol																																			
Cephalosporins	14	1	0																									1							
Cefotaxim	14	1	0																									1							
Ceftazidim																																			
Fluoroquinolones	15	1	0																									1							
Ciprofloxacin																																			
Penicillins	13	1	0																																
Ampicillin																																			
Quinolones	13	1	0																1																
Nalidixic acid																																			
Sulfonamides	12	1	0																	1															
Sulfonamide																																			
Tetracyclines	14	1	0																																
Tetracyclin																																			

Table Antimicrobial susceptibility testing of S. Nigeria in Gallus gallus (fowl) - at farm - Surveillance - quantitative data [Diffusion method]

S. Nigeria			Gallus gallus (fowl) - at farm - Surveillance																																	
Isolates out of a monitoring programme																																				
Number of isolates available in the laboratory																																				
			Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
Antimicrobials:	Break point	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			
Aminoglycosides																																				
Gentamicin	0																			1																
Streptomycin	0													1																						
Amphenicols																																				
Florfenicol	0																								1											
Cephalosporins																																				
Cefoperazone																					1															
Fluoroquinolones																																				
Ciprofloxacin	0																															1				
Enrofloxacin	0																															1				
Quinolones																																				
Nalidixic acid	0																							1												
Tetracyclines																																				
Tetracyclin	0																										1									
Trimethoprim	0																															1				

Table Antimicrobial susceptibility testing of *S. Norwich* in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Norwich																																		
Pigs - at farm - Surveillance																																		
Isolates out of a monitoring programme																																		
Number of isolates available in the laboratory																																		
Antimicrobials:	Break point	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	
	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
Aminoglycosides	0																						1											
Gentamicin																																		
Cephalosporins	0																												1					
Ceftazidim																																		
Fluoroquinolones																																		
Ciprofloxacin	0																					1												
Enrofloxacin	0														1																			
Quinolones																																		
Nalidixic acid	0																																	
Tetracyclines																																		
Tetraacyclin	0																																	

Table Antimicrobial susceptibility testing in S. Remo

n = Number of resistant isolates		
S. Remo		
Meat from broilers (Gallus gallus)		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		1
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	1	
Streptomycin	1	
Amphenicols		
Chloramphenicol	1	
Cephalosporins		
Cefotaxim	1	
Ceftazidim	1	
Fluoroquinolones		
Ciprofloxacin	1	
Fully sensitive	1	
Penicillins		
Ampicillin	1	
Quinolones		
Nalidixic acid	1	
Resistant to 1 antimicrobial	1	1
Resistant to 2 antimicrobials	1	
Resistant to 3 antimicrobials	1	
Resistant to 4 antimicrobials	1	
Resistant to >4 antimicrobials	1	
Sulfonamides		
Sulfonamide	1	
Tetracyclines		
Tetracyclin	1	

Table Antimicrobial susceptibility testing of S. Remo in unspecified - offal - Meat from broilers (Gallus gallus) - chilled - Surveillance - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Remo																																					
Meat from broilers (Gallus gallus) - offal - unspecified - chilled - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	no																																				
	1																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																					
Aminoglycosides																																					
Gentamicin	12	1	0											1																							
Streptomycin	11	1	0								1																										
Amphenicols																																					
Chloramphenicol	12	1	0																				1														
Cephalosporins																																					
Cefotaxim	14	1	0																								1										
Ceftazidim	14	1	0																						1												
Fluoroquinolones																																					
Ciprofloxacin	15	1	0																				1														
Penicillins																																					
Ampicillin	13	1	0																		1																
Quinolones																																					
Nalidixic acid	13	1	1	1																																	
Sulfonamides																																					
Sulfonamide	12	1	0																				1														
Tetracyclines																																					
Tetracyclin	14	1	0																							1											

Table Antimicrobial susceptibility testing of S. Rissen in carcass - Meat from pig - chilled - at slaughterhouse - animal sample - carcass swabs - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Rissen																																					
Meat from pig - carcass - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	no																																				
	3																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
Aminoglycosides																																					
Gentamicin	12	3	0											2				1																			
Streptomycin	11	3	0								1	1	1																								
Amphenicols																																					
Chloramphenicol	12	3	0															2				1															
Cephalosporins																																					
Cefotaxim	14	3	0															1					1														
Ceftazidim	14	3	2								1	1																1									
Fluoroquinolones																																					
Ciprofloxacin	15	3	0																1					1													
Quinolones																																					
Nalidixic acid	13	3	0																1	1	1																
Sulfonamides																																					
Sulfonamide	12	3	1	1																2																	
Tetracyclines																																					
Tetracyclin	14	3	2	2																																	

Table Antimicrobial susceptibility testing of S. Rissen in Meat from bovine animals - carcass - at slaughterhouse - animal sample - carcass swabs - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Rissen																																					
Meat from bovine animals - carcass - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	no																																				
	1																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																				
Aminoglycosides	12	1	0												1																						
Gentamicin	11	1	0									1																									
Streptomycin																																					
Amphenicols	12	1	0																		1																
Chloramphenicol																																					
Cephalosporins	14	1	0																	1																	
Cefotaxim	14	1	1							1																											
Ceftazidim																																					
Fluoroquinolones	15	1	0																			1															
Ciprofloxacin																																					
Penicillins	13	1	0												1																						
Ampicillin																																					
Quinolones	13	1	0																	1																	
Nalidixic acid																																					
Sulfonamides	12	1	1	1																																	
Sulfonamide																																					
Tetracyclines	14	1	0																									1									
Tetracyclin																																					

Table Antimicrobial susceptibility testing in S. Rissen

n = Number of resistant isolates				
	S. Rissen			
	Meat from pig		Meat from bovine animals	
Isolates out of a monitoring programme	no		no	
Number of isolates available in the laboratory	3		1	
Antimicrobials:	N	n	N	n
Aminoglycosides				
Gentamicin	3		1	
Streptomycin	3		1	
Amphenicols				
Chloramphenicol	3		1	
Cephalosporins				
Cefotaxim	3		1	
Ceftazidim	3	2	1	1
Fluoroquinolones				
Ciprofloxacin	3		1	
Fully sensitive	3		1	
Penicillins				
Ampicillin	3		1	
Quinolones				
Nalidixic acid	3		1	
Resistant to 1 antimicrobial	3	3	1	
Resistant to 2 antimicrobials	3		1	1
Resistant to 3 antimicrobials	3		1	
Resistant to 4 antimicrobials	3		1	
Resistant to >4 antimicrobials	3		1	
Sulfonamides				
Sulfonamide	3	1	1	1
Tetracyclines				
Tetracyclin	3	2	1	

Table Antimicrobial susceptibility testing in S. Ruzizi

n = Number of resistant isolates		
S. Ruzizi		
Meat from pig		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		2
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	2	
Streptomycin	2	2
Amphenicols		
Chloramphenicol	2	2
Cephalosporins		
Cefotaxim	2	
Ceftazidim	2	2
Fluoroquinolones		
Ciprofloxacin	2	
Fully sensitive	2	
Penicillins		
Ampicillin	2	2
Quinolones		
Nalidixic acid	2	
Resistant to 1 antimicrobial	2	
Resistant to 2 antimicrobials	2	
Resistant to 3 antimicrobials	2	
Resistant to 4 antimicrobials	2	
Resistant to >4 antimicrobials	2	2
Sulfonamides		
Sulfonamide	2	2
Tetracyclines		
Tetracyclin	2	2

Table Antimicrobial susceptibility testing of S. Ruzizi in intended to be eaten cooked - meat preparation - Meat from pig - chilled - at retail - environmental sample - Surveillance - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Ruzizi																																					
Meat from pig - meat preparation - intended to be eaten cooked - chilled - at retail - environmental sample - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	no																																				
	2																																				
Number of isolates available in the laboratory																																					
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																					
Antimicrobials:	Break point	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				
Aminoglycosides																																					
Gentamicin	12	2	0											1																							
Streptomycin	11	2	2	1				1																													
Amphenicols																																					
Chloramphenicol	12	2	2	2																																	
Cephalosporins																																					
Cefotaxim	14	2	0															1				1															
Ceftazidim	14	2	2			1		1																													
Fluoroquinolones																																					
Ciprofloxacin	15	2	0																	1						1											
Penicillins																																					
Ampicillin	13	2	2	1		1																															
Quinolones																																					
Nalidixic acid	13	2	0														2																				
Sulfonamides																																					
Sulfonamide	12	2	2	1		1																															
Tetracyclines																																					
Tetracyclin	14	2	2	2																																	

Table Antimicrobial susceptibility testing of S. Saintpaul in Sheep - at farm - Surveillance - quantitative data [Diffusion method]

S. Saintpaul																																			
Sheep - at farm - Surveillance																																			
Isolates out of a monitoring programme																																			
Number of isolates available in the laboratory																																			
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
Antimicrobials:		Break point	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	
Aminoglycosides		0																						1											
Gentamicin		0												1																					
Streptomycin																																			
Cephalosporins																																			
Ceftazidim		0																								1									
Fluoroquinolones																																			
Ciprofloxacin		0																																1	
Enrofloxacin		0																												1					
Quinolones																																			
Nalidixic acid		0																												1					
Tetracyclines																																			
Tetracyclin		0																											1						

Table Antimicrobial susceptibility testing of S. Saintpaul in Ducks - at farm - Surveillance - quantitative data [Diffusion method]

S. Saintpaul																																					
Ducks - at farm - Surveillance																																					
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					
Antimicrobials:		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
Break point	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					
Aminoglycosides																																					
Gentamicin	0															1																					
Streptomycin	0											1																									
Amphenicols																																					
Florfenicol	0																								1												
Cephalosporins																																					
Cefoperazone																									1												
Ceftazidim	0																			1																	
Fluoroquinolones																																					
Ciprofloxacin	0																											1									
Enrofloxacin	0																					1															
Quinolones																																					
Nalidixic acid	0																									1											
Tetracyclines																																					
Tetracyclin	0																												1								
Trimethoprim	0																													1							

Table Antimicrobial susceptibility testing in S. Saintpaul

n = Number of resistant isolates		
S. Saintpaul		
Meat from broilers (Gallus gallus)		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		3
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	3	
Streptomycin	3	1
Amphenicols		
Chloramphenicol	3	2
Cephalosporins		
Cefotaxim	3	
Ceftazidim	3	2
Fluoroquinolones		
Ciprofloxacin	3	
Enrofloxacin	1	
Penicillins		
Ampicillin	3	3
Quinolones		
Nalidixic acid	3	
Resistant to 1 antimicrobial	3	
Resistant to 2 antimicrobials	3	
Resistant to 3 antimicrobials	3	3
Resistant to 4 antimicrobials	3	
Resistant to >4 antimicrobials	3	
Sulfonamides		
Sulfonamide	2	
Tetracyclines		
Tetracyclin	3	1
Trimethoprim	1	

Table Antimicrobial susceptibility testing of S. Saintpaul in carcass - Meat from broilers (Gallus gallus) - chilled - at slaughterhouse - animal sample - Surveillance - carcass swabs - Surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Saintpaul																																					
Meat from broilers (Gallus gallus) - carcass - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	yes																																				
	3																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																				
Aminoglycosides																																					
Gentamicin	12	3	0											1	2																						
Streptomycin	11	3	0						2			1																									
Amphenicols																																					
Chloramphenicol	12	3	2	2																			1														
Cephalosporins																																					
Cefotaxim	14	3	0															2								1											
Ceftazidim	14	3	2			2																	1														
Fluoroquinolones																																					
Ciprofloxacin	15	3	0																					3													
Enrofloxacin	16	1	0																	1																	
Penicillins																																					
Ampicillin	13	3	3	1	2																																
Quinolones																																					
Nalidixic acid	13	3	0												2			1																			
Sulfonamides																																					
Sulfonamide	12	2	0																										2								
Tetracyclines																																					
Tetracyclin	14	3	1	1															2																		
Trimethoprim	10	1	1	1																																	

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) and turkeys - at farm - Surveillance - quantitative data [Diffusion method]

S. Senftenberg		Gallus gallus (fowl) and turkeys - at farm - Surveillance																																		
Isolates out of a monitoring programme	Number of isolates available in the laboratory	Break point	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:																																				
Aminoglycosides																																				
Gentamicin		0														1		1	2		2															
Streptomycin		0						2	1				2	1																						
Amphenicols																																				
Chloramphenicol		0																1																		
Florfenicol		0																2			2			1	1		1									
Cephalosporins																																				
Cefoperazone					1																				3		1									
Cefotaxim		0																										1					1			
Cefpodoxime																									1	2										
Ceftazidim		0			1														1		1						1		2							
Fluoroquinolones																																				
Ciprofloxacin		0																							1		2				1				2	
Enrofloxacin		0																							2	1		1			1					
Penicillins																																				
Ampicillin		0																							1		1									
Quinolones																																				
Nalidixic acid		0																	1					2	3											
Sulfonamides																																				
Sulfonamide		0															1								2											
Tetracyclines																																				
Tetracyclin		0			1										1					2																
Trimethoprim		0																										2								

Table Antimicrobial susceptibility testing of S. Stuttgart in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Stuttgart																																		
Pigs - at farm - Surveillance																																		
Isolates out of a monitoring programme																																		
Number of isolates available in the laboratory																																		
Antimicrobials:	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
	Break point	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	
Aminoglycosides	0																	2		1														
Gentamicin	0																																	
Streptomycin				3																														
Cephalosporins																																		
Ceftazidim	0																												3					
Fluoroquinolones																																		
Ciprofloxacin	0																																	
Enrofloxacin	0																			1						1	1							
Quinolones																																		
Nalidixic acid	0			2																									1					
Tetracyclines																																		
Tetracyclin	0			3																														

Table Antimicrobial susceptibility testing of S. Taksony in intended to be eaten cooked - meat preparation - Meat from pig - chilled - at retail - environmental sample - Surveillance - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Taksony																																				
Meat from pig - meat preparation - intended to be eaten cooked - chilled - at retail - environmental sample - Surveillance - surveillance survey - objective sampling																																				
Isolates out of a monitoring programme	no																																			
	1																																			
Number of isolates available in the laboratory																																				
Antimicrobials:	Break point	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			
	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
Aminoglycosides																																				
Gentamicin	12	1	0											1																						
Streptomycin	11	1	1	1																																
Amphenicols																																				
Chloramphenicol	12	1	1			1																														
Cephalosporins																																				
Cefotaxim	14	1	0																			1														
Ceftazidim	14	1	0																	1																
Fluoroquinolones																																				
Ciprofloxacin	15	1	0																					1												
Penicillins																																				
Ampicillin	13	1	1	1																																
Quinolones																																				
Nalidixic acid	13	1	0												1																					
Sulfonamides																																				
Sulfonamide	12	1	1	1																																
Tetracyclines																																				
Tetracyclin	14	1	1	1																																

Table Antimicrobial susceptibility testing in S. Taksony

n = Number of resistant isolates		
S. Taksony		
Meat from pig		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		1
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	1	
Streptomycin	1	1
Amphenicols		
Chloramphenicol	1	1
Cephalosporins		
Cefotaxim	1	
Ceftazidim	1	
Fluoroquinolones		
Ciprofloxacin	1	
Fully sensitive	1	
Penicillins		
Ampicillin	1	1
Quinolones		
Nalidixic acid	1	
Resistant to 1 antimicrobial	1	
Resistant to 2 antimicrobials	1	
Resistant to 3 antimicrobials	1	
Resistant to 4 antimicrobials	1	
Resistant to >4 antimicrobials	1	1
Sulfonamides		
Sulfonamide	1	1
Tetracyclines		
Tetracyclin	1	1
Trimethoprim	1	1

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

S. Tennessee		Gallus gallus (fowl) - at farm - Surveillance																																	
Isolates out of a monitoring programme	Number of isolates available in the laboratory																																		
		Break point	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:																																			
Aminoglycosides																																			
	Gentamicin	0													1		1	3	3		3	1			1										
	Streptomycin	0			1				5	2	2	2									1														
Amphenicols																																			
	Chloramphenicol	0																	1	1	1		1												
	Florfenicol	0												1			1				2	4	2												
Cephalosporins																																			
	Cefoperazone																				2	1	4	1	2										
	Cefotaxim	0																					2		1										
	Cefpodoxime																		1	1				1											
	Ceftazidim	0										1									1		2	5	2	1									
Fluoroquinolones																																			
	Ciprofloxacin	0																					3	1					5	1	1	1	2		
Penicillins																																			
	Ampicillin	0																		1	1	1													
Quinolones																																			
	Nalidixic acid	0		3															2			2	4	1					1						
Sulfonamides																																			
	Sulfonamide	0											1								1		1												
Tetracyclines																																			
	Tetracyclin	0								1							1		5	1	4							1							
	Trimethoprim	0			1														1					4		2									

Table Antimicrobial susceptibility testing of S. Typhimurium in Poultry, unspecified - at farm - Surveillance - quantitative data [Diffusion method]

S. Typhimurium																																
Poultry, unspecified - at farm - Surveillance																																
Isolates out of a monitoring programme																																
Number of isolates available in the laboratory																																
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																
Break point	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
Aminoglycosides																																
Gentamicin	0							1																								
Streptomycin	0								1																							
Cephalosporins																																
Ceftazidim	0																		1													
Fluoroquinolones																																
Ciprofloxacin	0																								1							
Enrofloxacin	0																								1							
Tetracyclines																																
Tetracyclin	0																															

Table Antimicrobial susceptibility testing of S. Typhimurium in Pigeons - in total - Surveillance - quantitative data [Diffusion method]

S. Typhimurium		Pigeons - in total - Surveillance																																		
Isolates out of a monitoring programme	Number of isolates available in the laboratory	Break point	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:																																				
Aminoglycosides																																				
	Gentamicin	0														1																				
	Streptomycin	0					1								1																					
Amphenicols																																				
	Chloramphenicol	0																																		
	Florfenicol	0																																		
Cephalosporins																																				
	Cefoperazone																																			
	Cefotaxim	0																																		
	Cefpodoxime																																			
	Ceftazidim	0																																		
Fluoroquinolones																																				
	Ciprofloxacin	0																																		
	Enrofloxacin	0																																		
Penicillins																																				
	Ampicillin	0																																		
Quinolones																																				
	Nalidixic acid	0																																		
Sulfonamides																																				
	Sulfonamide	0																																		
Tetracyclines																																				
	Tetracyclin	0																																		
	Trimethoprim	0																																		

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S. Typhimurium																																
Pigs - at farm - Surveillance																																
Isolates out of a monitoring programme																																
Number of isolates available in the laboratory																																
Antimicrobials:		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																														
Break point	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
Aminoglycosides																																
Gentamicin	0														1		2															
Streptomycin	0	3							1			1																				
Amphenicols																																
Chloramphenicol	0						1																									
Florfenicol	0									1							1															
Cephalosporins																																
Cefotaxim	0																			1					1		1					
Cepodoxime																							1									
Ceftazidim	0																				2						2					
Fluoroquinolones																																
Ciprofloxacin	0																					1	1	1			1				1	
Enrofloxacin	0																					2	1		1		1					
Penicillins																																
Ampicillin	0																															
Quinolones																																
Nalidixic acid	0																2															
Sulfonamides																																
Sulfonamide	0																															
Tetracyclines																																
Tetracyclin	0																	2														
Trimethoprim	0																															

Table Antimicrobial susceptibility testing of S. Typhimurium in Gallus gallus (fowl) and turkeys - at farm - Surveillance - quantitative data [Diffusion method]

S. Typhimurium		Gallus gallus (fowl) and turkeys - at farm - Surveillance																																		
Isolates out of a monitoring programme	Number of isolates available in the laboratory	Break point	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:																																				
Aminoglycosides																																				
Gentamicin		0													1	1	2	1	11	5	1															
Streptomycin		0					2		2		2	2	6	7	1							1														
Amphenicols																																				
Chloramphenicol		0																																		
Florfenicol		0																1		1																
Cephalosporins																																				
Cefoperazone																	1																			
Cefotaxim		0																																		
Cefpodoxime																																				
Ceftazidim		0												1								1	2	9	2	5	1	2								
Fluoroquinolones																																				
Ciprofloxacin		0																																		
Enrofloxacin		0											1																							
Quinolones																																				
Nalidixic acid		0																																		
Tetracyclines																																				
Tetracyclin		0															1																			
Trimethoprim																																				

Table Antimicrobial susceptibility testing of S. Typhimurium in Geese - in total - Surveillance - quantitative data [Diffusion method]

S. Typhimurium			Geese - in total - Surveillance																														
Isolates out of a monitoring programme																																	
Number of isolates available in the laboratory																																	
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
Break point	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:																																	
Aminoglycosides																																	
		0																1															
	Gentamicin	0																															
	Streptomycin										1																						
Cephalosporins																																	
	Ceftazidim	0																					1										
Fluoroquinolones																																	
	Ciprofloxacin	0																										1					
	Enrofloxacin	0																											1				
Quinolones																																	
	Nalidixic acid	0																							1								
Tetracyclines																																	
	Tetracyclin	0																												1			

Table Antimicrobial susceptibility testing of S. Typhimurium in Quails - in total - Surveillance - quantitative data [Diffusion method]

S. Typhimurium		Quails - in total - Surveillance																																	
Isolates out of a monitoring programme	Number of isolates available in the laboratory	Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
		Break point	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:																																			
Aminoglycosides																																			
	Gentamicin	0																	1																
	Streptomycin	0																	1																
Cephalosporins																																			
	Ceftazidim	0																							1										
Fluoroquinolones																																			
	Ciprofloxacin	0																								1									
	Enrofloxacin	0																			1														
Quinolones																																			
	Nalidixic acid	0																	1																
Tetracyclines																																			
	Tetracyclin	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		Gallus gallus (fowl) - laying hens		Gallus gallus (fowl) - broilers	
Isolates out of a monitoring programme	no		no						no		no	
Number of isolates available in the laboratory	0		0						0		0	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides												
Gentamicin	3	0	5	0					22	3	1	0
Streptomycin	3	1	5	3					22	3	1	1

Table Antimicrobial susceptibility testing of S. Typhimurium in Ducks - at farm - Surveillance - quantitative data [Diffusion method]

S. Typhimurium		Ducks - at farm - Surveillance																																	
Isolates out of a monitoring programme	Number of isolates available in the laboratory																																		
		Break point	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:																																			
Aminoglycosides																																			
	Gentamicin	0			1									1		2																			
	Streptomycin	0			1		1						1		1																				
Amphenicols																																			
	Chloramphenicol	0		1																			1	1	1	1									
	Florfenicol	0																				1		6	1										
Cephalosporins																																			
	Cefoperazone																							6	2										
	Cefpodoxime																						3					1							
	Ceftazidim	0																	2	1			3	3	1	1									
Fluoroquinolones																																			
	Ciprofloxacin	0																					2	2	3	1			2						
	Enrofloxacin	0																					1	5	1	1									
Penicillins																																			
	Ampicillin	0																				1	1	1	1										
Quinolones																																			
	Nalidixic acid	0		1																		1	1	1	2	1									
Sulfonamides																																			
	Sulfonamide	0															1		2					1											
Tetracyclines																																			
	Tetracyclin	0															2		3																
	Trimethoprim	0																						1	1	2	1	3							

Table Antimicrobial susceptibility testing of S. Typhimurium in Cattle (bovine animals) - at farm - Surveillance - quantitative data [Diffusion method]

S. Typhimurium		Cattle (bovine animals) - at farm - Surveillance																																	
Isolates out of a monitoring programme	Number of isolates available in the laboratory	no																																	
		Break point	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:																																			
Aminoglycosides																																			
	Gentamicin	0											1																						
	Streptomycin	0		1							1																								
Amphenicols																																			
	Chloramphenicol	0												1																					
	Florfenicol	0																	1					1		1									
Cephalosporins																																			
	Cefoperazone																		1						1		1								
	Cefotaxim	0																							1				1						
	Cefpodoxime																		1								1								
	Ceftazidim	0																			1			1					1						
Fluoroquinolones																																			
	Ciprofloxacin	0																									1		1		2				
	Enrofloxacin	0																	1						1		1								
Quinolones																																			
	Nalidixic acid	0						1											1		1														
Sulfonamides																																			
	Sulfonamide	0		1												1														1					
Tetracyclines																																			
	Tetracyclin	0		1									1		1												1								
	Trimethoprim	0																									1		1						

Table Antimicrobial susceptibility testing of S. Typhimurium in Sheep - at farm - Surveillance - quantitative data [Diffusion method]

S. Typhimurium																																	
Sheep - at farm - Surveillance																																	
Isolates out of a monitoring programme																																	
	Number of isolates available in the laboratory																																
Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																	
Antimicrobials:	Break point	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
Aminoglycosides																																	
Gentamicin	0																	2							2								
Streptomycin	0																	2		2													
Cephalosporins																																	
Ceftazidim	0																											4					
Fluoroquinolones																																	
Ciprofloxacin	0																																4
Enrofloxacin	0																													1		2	1
Quinolones																																	
Nalidixic acid	0																											1	1	1			
Tetracyclines																																	
Tetracyclin	0																										1	2	1				

Table Antimicrobial susceptibility testing of S. Typhimurium in Foxes - in total - Surveillance - quantitative data [Diffusion method]

S. Typhimurium																																					
Foxes - in total - Surveillance																																					
Isolates out of a monitoring programme																																					
Number of isolates available in the laboratory																																					
Antimicrobials:		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																			
Break point	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					
Aminoglycosides																																					
Gentamicin	0															1																					
Streptomycin	0						1																														
Amphenicols																																					
Florfenicol	0																1																				
Cephalosporins																																					
Cefoperazone																									1												
Ceftazidim	0																									1											
Fluoroquinolones																																					
Ciprofloxacin	0																								1												
Enrofloxacin	0																									1											
Quinolones																																					
Nalidixic acid	0																1																				
Tetracyclines																																					
Tetracyclin	0																1																				
Trimethoprim	0																									1											

Table Antimicrobial susceptibility testing of *S. Typhimurium* in Chinchillas - at farm - Surveillance - quantitative data [Diffusion method]

S. Typhimurium		Chinchillas - at farm - Surveillance																																		
Isolates out of a monitoring programme	Number of isolates available in the laboratory	Break point	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:																																				
Aminoglycosides																																				
Gentamicin		0														1	1																			
Streptomycin		0								1	1																									
Amphenicols																																				
Chloramphenicol		0																							1	1										
Florfenicol		0																						2												
Cephalosporins																																				
Cefoperazone																	1									1										
Cefotaxim		0																									2									
Fluoroquinolones																																				
Ciprofloxacin		0																									2									
Enrofloxacin		0																							1	1										
Penicillins																																				
Ampicillin		0																							1	1										
Quinolones																																				
Nalidixic acid		0																						1	1											
Sulfonamides																																				
Sulfonamide		0						1																			1									
Tetracyclines																																				
Tetracyclin		0																	1																	
Trimethoprim		0																									1									

Table Antimicrobial susceptibility testing of S. Typhimurium in intended to be eaten cooked - meat preparation - Meat from pig - chilled - at retail - environmental sample - Surveillance - surveillance sample - at retail - environmental sample - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Typhimurium																																					
Meat from pig - meat preparation - intended to be eaten cooked - chilled - at retail - environmental sample - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	no																																				
	8																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
Aminoglycosides																																					
Gentamicin	12	8	1			1					1		1	2				2	1																		
Streptomycin	11	8	8	8																																	
Amphenicols																																					
Chloramphenicol	12	8	3			3												1				2	1		1												
Cephalosporins																																					
Cefotaxim	14	8	0																1					2		1		3		1							
Ceftazidim	14	8	2							1	1		1	1						1	1		1		1												
Fluoroquinolones																																					
Ciprofloxacin	15	8	0																1				1			1	1	1	1	1	2						
Enrofloxacin	16	1	0																					1													
Penicillins																																					
Ampicillin	13	8	7	6		1																	1														
Quinolones																																					
Nalidixic acid	13	8	0															3	1	1		2	1														
Sulfonamides																																					
Sulfonamide	12	8	7	6					1													1															
Tetracyclines																																					
Tetracyclin	14	8	7	6		1																					1										
Trimethoprim	10	1	0																1																		

Table Antimicrobial susceptibility testing in S. Typhimurium

n = Number of resistant isolates		
S. Typhimurium		
Meat from pig		
Isolates out of a monitoring programme		no
Number of isolates available in the laboratory		8
Antimicrobials:	N	n
Aminoglycosides		
Gentamicin	8	
Streptomycin	8	8
Amphenicols		
Chloramphenicol	8	3
Cephalosporins		
Cefotaxim	8	
Ceftazidim	8	2
Fluoroquinolones		
Ciprofloxacin	8	
Enrofloxacin	1	
Fully sensitive	8	
Penicillins		
Ampicillin	8	6
Quinolones		
Nalidixic acid	8	
Resistant to 1 antimicrobial	8	2
Resistant to 2 antimicrobials	8	4
Resistant to 3 antimicrobials	8	1
Resistant to 4 antimicrobials	8	1
Resistant to >4 antimicrobials	8	
Sulfonamides		
Sulfonamide	8	7
Tetracyclines		
Tetracyclin	8	7
Trimethoprim	1	

Table Antimicrobial susceptibility testing of S. Virchow in Gallus gallus (fowl) - at farm - Surveillance - quantitative data [Diffusion method]

S. Virchow		Gallus gallus (fowl) - at farm - Surveillance																																	
Isolates out of a monitoring programme	Number of isolates available in the laboratory																																		
		Break point	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:																																			
Aminoglycosides																																			
	Gentamicin	0		1												1	2	9	2	1															
	Streptomycin	0		10					1		3	1	1	1																					
Amphenicols																																			
	Chloramphenicol	0																	1	1	2		4												
	Florfenicol	0																2	1	2	2	3	1												
Cephalosporins																																			
	Cefoperazone																		1		3		4	1	2										
	Cefotaxim	0																							1	2	1	2	2						
	Cefpodoxime																			1	1	2	3												
	Ceftazidim	0																		1	3	2	9	1											
Fluoroquinolones																																			
	Ciprofloxacin	0																	3	2			8	1	2										
	Enrofloxacin	0													1		3	2	2		2	1	6												
Penicillins																																			
	Ampicillin	0																	1	3	1	3													
Quinolones																																			
	Nalidixic acid	0																	3		1		1												
Sulfonamides																																			
	Sulfonamide	0																			1														
Tetracyclines																																			
	Tetracyclin	0							1										1	3	1														
	Trimethoprim	0																																	

Table Antimicrobial susceptibility testing of S. Virchow in Cattle (bovine animals) - at farm - Surveillance - quantitative data [Diffusion method]

S. Virchow		Cattle (bovine animals) - at farm - Surveillance																																	
Isolates out of a monitoring programme	Number of isolates available in the laboratory																																		
		Break point	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:																																			
Aminoglycosides																																			
Gentamicin		0																	1																
Streptomycin		0							1																										
Cephalosporins																																			
Ceftazidim		0																						1											
Fluoroquinolones																																			
Ciprofloxacin		0																							1										
Enrofloxacin		0																			1														
Quinolones																																			
Nalidixic acid		0						1																											
Tetracyclines																																			
Tetracyclin		0																																	

Table Antimicrobial susceptibility testing of S. Virchow in Meat from bovine animals - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Virchow																																					
Meat from bovine animals - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	no																																				
	1																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
Aminoglycosides																																					
Gentamicin	12	1	0											1																							
Streptomycin	11	1	1					1																													
Amphenicols																																					
Chloramphenicol	12	1	0																1																		
Cephalosporins																																					
Cefotaxim	14	1	0																		1																
Ceftazidim	14	1	0																	1																	
Fluoroquinolones																																					
Ciprofloxacin	15	1	0																								1										
Penicillins																																					
Ampicillin	13	1	0															1																			
Quinolones																																					
Nalidixic acid	13	1	0															1																			
Sulfonamides																																					
Sulfonamide	12	1	0															1																			
Tetracyclines																																					
Tetracyclin	14	1	0																1																		

Table Antimicrobial susceptibility testing in S. Virchow

n = Number of resistant isolates						
	S. Virchow					
	Meat from pig		Meat from broilers (Gallus gallus)		Meat from bovine animals	
Isolates out of a monitoring programme	no		no		no	
Number of isolates available in the laboratory	3		33		1	
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides						
Gentamicin	1		33		1	
Streptomycin	1	1	33	20	1	1
Amphenicols						
Chloramphenicol	1		33		1	
Cephalosporins						
Cefotaxim	1		33		1	
Ceftazidim	1	1	33	24	1	
Fluoroquinolones						
Ciprofloxacin	1		33		1	
Enrofloxacin	1		33		0	
Fully sensitive	1		33	1	1	
Penicillins						
Ampicillin	1	1	33	10	1	
Quinolones						
Nalidixic acid	1		33	33	1	
Resistant to 1 antimicrobial	1		33	1	1	1
Resistant to 2 antimicrobials	1		33	7	1	
Resistant to 3 antimicrobials	1		33	8	1	
Resistant to 4 antimicrobials	1		33	6	1	
Resistant to >4 antimicrobials	1	1	33	11	1	
Sulfonamides						
Sulfonamide	1		26	11		
Tetracyclines						
Tetracyclin	1	1	33	26	1	
Trimethoprim	1	1	32	2	0	

Table Antimicrobial susceptibility testing of S. Virchow in carcass - Meat from pig - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Virchow		Meat from pig - carcass - chilled - at slaughterhouse - animal sample - carcass swabs - Surveillance - surveillance survey - objective sampling																																	
Isolates out of a monitoring programme	Number of isolates available in the laboratory	no																																	
		3																																	
		Break point	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:																																			
Aminoglycosides																																			
Gentamicin	12		3	0											1																				
Streptomycin	11		3	1	1						1	1																							
Amphenicols																																			
Chloramphenicol	12		3	0																				2	1										
Cephalosporins																																			
Cefotaxim	14		3	0																			1		1										
Ceftazidim	14		3	3					1			1	1																						
Fluoroquinolones																																			
Ciprofloxacin	15		3	0																						1	1								
Enrofloxacin	16		2	0																			2												
Penicillins																																			
Ampicillin	13		3	1	1										1																				
Quinolones																																			
Nalidixic acid	13		3	0												1																			
Sulfonamides																																			
Sulfonamide	12		3	0												1																			
Tetracyclines																																			
Tetracyclin	14		3	1	1											1																			
Trimethoprim	10		2	1	1																														

Table Antimicrobial susceptibility testing of S. Virchow in carcass - Meat from broilers (Gallus gallus) - chilled - at slaughterhouse - animal sample - neck skin - Surveillance - surveillance survey - objective sampling - quantitative data [Diffusion method]

S. Virchow																																					
Meat from broilers (Gallus gallus) - carcass - chilled - at slaughterhouse - animal sample - neck skin - Surveillance - surveillance survey - objective sampling																																					
Isolates out of a monitoring programme	no																																				
	33																																				
Number of isolates available in the laboratory																																					
Antimicrobials:	Break point	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				
																																		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to			
Aminoglycosides																																					
Gentamicin	12	33	0									1	1	4		2	4	7	9	3	2																
Streptomycin	11	33	20	1	1	1	2	7	8	4	2		2	4		1																					
Amphenicols																																					
Chloramphenicol	12	33	0													3	6	4	4	2	2	4	5	3													
Cephalosporins																																					
Cefotaxim	14	33	0															1	2	2	6	5	7	5	4	1											
Ceftazidim	14	33	24	1		1			5	6	7	4	1	1		2		1	3	1																	
Fluoroquinolones																																					
Ciprofloxacin	15	33	0											2		2	6	7	7	3	3	1	2														
Enrofloxacin	16	32	19									1	8	10	4	4	3	1	1																		
Penicillins																																					
Ampicillin	13	33	10				1	2	1	3	3	2	3		3	5		1	2	5	1		1														
Quinolones																																					
Nalidixic acid	13	33	33																																		
Sulfonamides																																					
Sulfonamide	12	26	11	1				6	2	2						2	4	1	1	2	5																
Tetracyclines																																					
Tetracyclin	14	33	26	22		2	2							2	2	1	2																				
Trimethoprim	10	32	2				2									2	4	9	2	4	1	3	2	1	2												

Table Antimicrobial susceptibility testing of S. Westhampton in Pigs - at farm - Surveillance - quantitative data [Diffusion method]

S. Westhampton		Pigs - at farm - Surveillance																																				
Isolates out of a monitoring programme	Number of isolates available in the laboratory	Break point	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:		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																				
Aminoglycosides																																						
Gentamicin		0																																				
Streptomycin		0											1																									
Cephalosporins																																						
Ceftazidim		0																																				
Fluoroquinolones																																						
Ciprofloxacin		0																																				
Enrofloxacin		0																																				
Quinolones																																						
Nalidixic acid		0																																				
Tetracyclines																																						
Tetracyclin		0																																				

Table Antimicrobial susceptibility testing of S. Westhampton in Gallus gallus (fowl) and turkeys - at farm - Surveillance - quantitative data [Diffusion method]

S. Westhampton		Gallus gallus (fowl) and turkeys - at farm - Surveillance																																		
Isolates out of a monitoring programme	Number of isolates available in the laboratory	Break point	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:		Number of resistant isolates (n) and number of isolates with the concentration (u/ ml) or zone (mm) of inhibition equal to																																		
Aminoglycosides															1																					
Gentamicin		0																																		
Streptomycin		0											1																							
Amphenicols																																				
Florfenicol		0																										1								
Cephalosporins																																				
Cefoperazone																									1											
Ceftazidim		0																										1								
Fluoroquinolones																																				
Ciprofloxacin		0																															1			
Enrofloxacin		0																													1					
Quinolones																																				
Nalidixic acid		0																							1											
Tetracyclines																																				
Tetracyclin		0																																		
Trimethoprim		0																											1							

Table Breakpoints for antibiotic resistance testing in Food

Test Method Used

Disc diffusion

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 ≤
Amphenicols										
Chloramphenicol	NCCLS						30	18	13	12
Florfenicol										
Tetracyclines										
Tetracyclin	NCCLS						30	19	15	14
Fluoroquinolones										
Ciprofloxacin	NCCLS						5	21	16	15
Enrofloxacin							5	23		16
Quinolones										
Nalidixic acid	NCCLS						30	19	14	13
Trimethoprim	NCCLS						5	16	11	10
Sulfonamides										
Sulfonamide							300	17	13	12
Aminoglycosides										
Streptomycin	NCCLS						10	15	12	11
Gentamicin	NCCLS						10	15	13	12
Neomycin										
Kanamycin	NCCLS						30	18	14	13
Trimethoprim + sulfonamides	NCCLS						25	16	11	10
Cephalosporins										
Cefotaxim							30	23	15	14
Ceftazidim							30	18	15	14
3rd generation cephalosporins										
Penicillins										
Ampicillin	NCCLS						10	17	14	13

2.2. CAMPYLOBACTERIOSIS

2.2.1. General evaluation of the national situation

2.2.2. Campylobacteriosis in humans

2.2.3. Campylobacter in foodstuffs

A. Thermophilic Campylobacter in Broiler meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

According with Romanian National Specific Programme for Surveillance of Zoonoses on 2007 year.

At meat processing plant

According with Romanian National Specific Programme for Surveillance of Zoonoses on 2007 year.

At retail

According with Romanian National Specific Programme for Surveillance of Zoonoses on 2007 year.

Frequency of the sampling

At slaughterhouse and cutting plant

Sampling distributed evenly throughout the year

At meat processing plant

Sampling distributed evenly throughout the year

At retail

Sampling distributed evenly throughout the year

Type of specimen taken

At slaughterhouse and cutting plant

Other: broiler carcasses and offals

At meat processing plant

Other: broiler carcasses and offals

At retail

Other: broiler carcasses and offals

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

Broiler carcasses and offals.

At meat processing plant

No available data.

At retail

Broiler carcasses and offals.

Diagnostic/ analytical methods used

At slaughterhouse and cutting plant

Other: SR ISO 10272/ 2000,

At meat processing plant

Other: SR ISO 10272/ 2000,

At retail

Other: SR ISO 10272/ 2000,

Control program/ mechanisms

The control program/ strategies in place

The Romanian Control Programme it's a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2006, yearly updated.

The susceptibility testing of *Campylobacter* is a part of the programme.

The programme have been issued according the provisions of Reg (CE) no.2005/ 2073/ EC in order to detect Thermophilic *Campylobacter* in broiler meat.

Measures in case of the positive findings or single cases

The broiler carcasses and raw meat products from broiler, intended to be eaten cooked, contaminated with Thermophilic *Campylobacter* are compulsory heat treated.

Cooked meat products, ready-to-eat, contaminated with Thermophilic *Campylobacter* have been withdrawn from human consumption.

Notification system in place

Rapid Alert System for Food and Feed.

Results of the investigation

No positive cases.

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. upsaliensis	C. jejuni	Thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus)	SVFSL	single	25 g	778	0	0	0	0	0	0
fresh										
- at slaughterhouse (1)	SVFSL	single	25 g	778	0	0	0	0	0	0

(1) : + processing plant and retail, surveillance and autocheck

Footnote

The Romanian Control Programme it's a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2006, yearly updated.

The susceptibility testing of Campylobacter is a part of the programme.

2.2.4. Campylobacter in animals

2.2.5. Antimicrobial resistance in *Campylobacter* isolates

2.3. LISTERIOSIS

2.3.1. General evaluation of the national situation

A. Listeriosis general evaluation

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

During the 2002-2006 period were isolated from meat, meat products, milk and milk products, 30 strains of *Listeria* ssp:

- 8 strains *L. monocytogenes* (26.6%),
- 19 strains *L. innocua* (63.3%),
- 3 strains *L. welshimeri*.

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

There are no data available regarding *Listeriosis* human cases in Romania.

2.3.2. Listeriosis in humans

2.3.3. Listeria in foodstuffs

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L.monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/ g	L. monocytogenes > 100 cfu/ g
Milk, cows'	SVFSL	batch	25 ml	7379	2	7379	2	0		
raw										
intended for direct human consumption	SVFSL	batch	25 ml	3496	0	3496	0	0		
raw milk for manufacture										
intended for manufacture of raw or low heat-treated products	SVFSL	batch	25 ml	3583	2	3583	2	0		
pasteurised milk										
- at processing plant	SVFSL	batch	25 ml	300	0	300	0	0		
Milk, sheep's										
raw	SVFSL	batch	25 ml	16	0	16	0	0		
Milk, goats'										
raw milk for manufacture										
intended for manufacture of raw or low heat-treated products	SVFSL	batch	25 ml	40	0	40	0	0		
Cheeses made from cows' milk										
soft and semi-soft										
made from raw or low heat-treated milk										
- at processing plant	SVFSL	batch	25 ml	70	0	70	0	0		
- at retail	SVFSL	batch	25 ml	939	0	939	0	0		
hard										
made from raw or low heat-treated milk										
- at processing plant	SVFSL	batch	25 ml	73	0	73	0	0		
made from pasteurised milk										
- at processing plant	SVFSL	batch	25 ml	1327	0	1327	0	0		

Cheeses made from goats' milk										
soft and semi-soft										
made from pasteurised milk										
- at processing plant	SVFSL	batch	25 ml	6	0	6	0	0		
hard										
made from raw or low heat-treated milk										
- at processing plant	SVFSL	batch	25 ml	17	0	17	0	0		
made from pasteurised milk										
- at processing plant	SVFSL	batch	25 ml	2	0	2	0	0		
Cheeses made from sheep's milk										
soft and semi-soft										
made from raw or low heat-treated milk										
- at processing plant	SVFSL	batch	25 ml	94	0	94	0	0		
made from pasteurised milk										
- at processing plant	SVFSL	batch	25 ml	38	0	38	0	0-		
hard										
made from raw or low heat-treated milk										
- at processing plant	SVFSL	batch	25 ml	8	0	8	0	0		
made from pasteurised milk										
- at processing plant	SVFSL	batch	25 ml	388	0	388	0	0		
Dairy products (excluding cheeses)										
butter										
- at processing plant	SVFSL	batch	25 ml	36	0	36	0	0		
cream										
- at processing plant	SVFSL	batch	25 ml	136	0	136	0	0		
ice-cream										
- Surveillance	SVFSL	batch	25 ml	21	0	21	0	0		

Footnote

* samples are from processing and retail;

**samples are from surveillance and autochek;

The units were tested only by detection method.

Table Listeria monocytogenes in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L.monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/ g	L. monocytogenes > 100 cfu/ g
Meat from broilers (Gallus gallus)										
fresh	SVFSL	batch	25 g	2788	5	2788	5	0		
meat products										
cooked, ready-to-eat										
- at processing plant	SVFSL	batch	25 g	295	0	295	0	0		
mechanically separated meat (MSM)										
- Surveillance	SVFSL	batch	25 g	106	0	106	0	0		
Meat from pig										
fresh	SVFSL	batch	25 g	4358	7	4358	7	0		
meat products										
cooked, ready-to-eat										
- at processing plant	SVFSL	batch	25 g	2108	0	2108	0	0		
minced meat										
- Survey	SVFSL	batch	25 g	893	0	893	0	0		
Meat from bovine animals										
fresh	SVFSL	batch	25 g	3242	3	3242	3	0		
meat products										
cooked, ready-to-eat										
- at processing plant	SVFSL	batch	25 g	232	0	232	0	0		
Fish										
smoked										
- at processing plant	SVFSL	batch	25 g	73	0	73	0	0		
raw										
- Surveillance	SVFSL	batch	25 g	1148	0	1148	0	0		
Molluscan shellfish										
cooked										
- at processing plant	SVFSL	batch	25 g	3	0	3	0	0		
Foodstuffs intended for special nutritional uses	SVFSL	batch	25 g	8	0	8	0	0		

Footnote

* samples are from processing and retail;

**samples are from surveillance and autochek;

The units were tested only by detection method

2.3.4. Listeria in animals

2.4. E. COLI INFECTIONS**2.4.1. General evaluation of the national situation****2.4.2. E. Coli Infections in humans****2.4.3. Escherichia coli, pathogenic in foodstuffs****Table VT E. coli in food**

	Source of information	Sampling unit	Sample weight	Units tested	Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat from bovine animals								
fresh								
- at slaughterhouse (1)	SVFSL	single	25 g	1890	0	0	0	0
minced meat								
intended to be eaten raw								
- at processing plant (2)	SVFSL	single	25 g	58	0	0	0	0

(1) : processing plant and retail

(2) : processing plant and retail

2.4.4. Escherichia coli, pathogenic in animals

2.5. TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1. General evaluation of the national situation

2.5.2. Tuberculosis, Mycobacterial Diseases in humans

2.5.3. Mycobacterium in animals

A. Mycobacterium bovis in bovine animals

Monitoring system

Sampling strategy

Tuberculosis is a disease obligatory notification in Romania. In Romania, programme of tuberculosis eradication complies with the provisions of Council Directive 64/ 432/ EEC, transposed into Romanian. All animals slaughtered for human consumption are inspected post-mortem by an official veterinarian. Suspicious lesions are sampled for histological and bacteriological examination.

Frequency of the sampling

Compulsory tuberculin testing - all bovine over six weeks old, from the whole territory of Romania, twice per year with a single dermal test.

The programme of regular tuberculin testing is supplemented by veterinarian inspection of bovine during routine meat production at slaughterhouses. Animals with suspect lesions are traced back to the herd of origin, which then subjected to tuberculin check testing.

Case definition

Definition of cases:

A positive case is an animal with a positive result of the comparative skin test, in which *Mycobacterium bovis* or *M. tuberculosis* were isolated, or an animal with a positive post mortem examination result confirmed by a laboratory.

A holding is defined as infected if *Mycobacterium bovis* was isolated from an animal of the holding.

Diagnostic/ analytical methods used

- single intradermal skin test used for routine testing;
- comparative intradermal skin test;
- inspection of carcasses at slaughterhouses;
- histological examination;
- bacteriological examination;
- Guinea-pigs.

Control program/ mechanisms

The control program/ strategies in place

The monitoring of tuberculosis in bovine populations from Romania have been continuous and sustained, while control and eradication of disease was included in the „Strategic programme for the surveillance, prevention and control of transmissible animal diseases from animals to humans, animal protection and environment”, updated every year and approved through President Order of the National Sanitary Veterinary and Food Safety Authority, consisting in the intradermic tuberculin test, for detecting positive animals and the qualification of their health status.

Until 2002, were subjected to the tuberculin test all bovine animals over six months old and, beginning with 2003, all bovine over six weeks old, from the whole territory of Romania, twice per year with a single intradermal test. All animals given inconclusive or positive results have been subjected to an intradermal comparative test and, in case of positive result, have been slaughtered and organ samples collected for laboratory investigations.

In order to eradicate the tuberculosis, it is necessary to eliminate animals tested positively for the intradermal comparative test.

Following to actions carried out for the control and eradication of the tuberculosis some counties were register –ed a continuous decrease of incidence of bovine tuberculosis.

Measures in case of the positive findings or single cases

Isolate the infected animals or animals suspected of infection, within the livestock;

- Put the livestock under official veterinary surveillance;
- All at least 6 weeks old bovine animals native of tuberculose positive herds should be tuberculin tested;
- Bovine animals could be taken out from the herd only for slaughter;
- Desinfection.

Results of the investigation

See the table for the Romanian programme of tuberculosis eradication.

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

The annual incidence rate, which was 5.73% in 1990, was lower than 0.2% in 2006. The downward trend of the annual herd rates of prevalence and incidence confirms the favorable evolution of the situation.

Table Bovine tuberculosis - data on herds - Community co-financed eradication programmes

Region	Total number of herds	Total number of herds under the programme	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	% positive herds depopulated	Indicators		
								% herd coverage	% positive herds - period herd prevalence	% new positive herds - herd incidence
Whole country	1248595	783557	781417	420	293	230	54.762	99.727	0.054	0.037
Total	1248595	783557	781417	420	293	230	54.762	99.727	0.054	0.037
Total - 1										

Table Bovine tuberculosis - data on animals - Community co-financed eradication programmes

Region	Total number of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	Slaughtering		Indicators	
						Number of animals with positive result slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals - animal prevalence
Whole country	2544715	1572831	1561686	1561686	605	605	233259	99,291	0,039
Total	2544715	1572831	1561686	1561686	605	605	233259	99,291	0,039
Total - I									

Table Bovine tuberculosis - data on status of herds at the end of the period - Community co-financed eradication programmes

Region	Status of herds and animals under the programme															
	Total number of herds and animals under the programme		Unknown		Not free or not officially free				Free or officially free suspended				Free		Officially free	
					Last check positive		Last check negative		Herds		Animals					
	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals		
Whole country	783557	1572831	51	72	110	186	2803	3718							1232099	2576498
Total	783557	1572831	51	72	110	186	2803	3718	0	0	0	0			1232099	2576498
Total - 1																

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

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			
Whole country	1248595	2544715	1232099	98.679	420	0.034		1561686		605	172
Total	1248595	2544715	1232099	98.679	420	0.034		1561686	0	605	172

(*) Legend:

In column "Interval between routine tuberculin tests" use the following numeric codes: (0) no routine tests; (1) tests once a year; (2) tests each two years; (3) tests each three years concerning 24 month-old animals; (4) tests each 4 years; (5) others (please give details).

2.6. BRUCELLOSIS

2.6.1. General evaluation of the national situation

2.6.2. Brucellosis in humans

2.6.3. Brucella in foodstuffs

2.6.4. Brucella in animals

Table Bovine brucellosis - data on herds - Community co-financed eradication programmes

Region	Total number of herds	Total number of herds under the programme	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	% positive herds depopulated	Indicators		
								% herd coverage	% positive herds - period herd prevalence	% new positive herds - herd incidence
Whole country								0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Total - 1										

Table Bovine brucellosis - data on animals - Community co-financed eradication programmes

Region	Total number of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	Slaughtering		Indicators	
						Number of animals with positive result slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals - animal prevalence
Whole country								0	0
Total	0	0	0	0	0	0	0	0	0
Total - I									

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 infected herds tested	Number of animals tested	Number of infected herds tested	Number of notified abortions wherever cause	Number of isolations of Brucella infection	Number of abortions due to Brucella abortus	Number of animals tested with rapid blood tests	Number of suspected herds	Number of positive animals		Number of animals examined biologically	Number of animals positive biologically	
Whole country	1248595	2544715	1228970	98.428	0			1105897						1105897						
	1248595	2544715	1228970	98.428	0	0	0	1105897	0	0	0	0	0	1105897	0	0	0	0	0	
Total																				

Table Ovine or Caprine brucellosis - data on herds - Community co-financed eradication programmes

Region	Total number of herds	Total number of herds under the programme	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	% positive herds depopulated	Indicators		
								% herd coverage	% positive herds - period herd prevalence	% new positive herds - herd incidence
Whole country							0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Total - 1										

Table Ovine or Caprine brucellosis - data on animals - Community co-financed eradication programmes

Region	Total number of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of positive animals	Slaughtering		Indicators	
						Number of animals with positive result slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals - animal prevalence
Whole country								0	0
Total	0	0	0	0	0	0	0	0	0
Total - I									

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 herds	%	Number of herds tested	Number of animals tested	Number of infected herds	Number of animals tested (serological blood tests)	Number of animals positive serologically	Number of animals examined microbially	Number of animals positive microbially	Number of suspended herds	
Whole country	538872	10566576		0	2976	0.552		344195	2976		344195	2976			
	538872	10566576	0	0	2976	0.552	0	344195	2976		344195	2976	0	0	

2.7. YERSINIOSIS

2.7.1. General evaluation of the national situation

2.7.2. Yersiniosis in humans

2.7.3. Yersinia in foodstuffs

2.7.4. 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

In Romania there are not regions or holding official free of trichinelosis. In general *Trichinella spiralis* was detected in pigs belong to the small holdings (individual backyards), wild boars and bears.

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

In 2007 year were detected 62 positive cases in fattening pigs raised under controlled housing conditions in integrated production system and 515 positive cases in fattening pigs not raised under controlled housing conditions in integrated production, 31 positive cases in wild boars and 8 positive cases in bears.

The number of positive cases of *Trichinella spiralis* in humans was 432 cases in total .

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

The main sources of infection in humans with *Trichinella spiralis* were pork meat and products thereof (raw meat products - household) and wild boar meat.

Recent actions taken to control the zoonoses

The Romanian National Programme for Surveillance of Zoonoses on 2007 year was issued according with the provisions of Regulation 2005/ 2075/ EC in order to control the Trichinelosis.

2.8.2. Trichinellosis in humans

A. Trichinellosis in humans

Reporting system in place for the human cases

Rapid Alert System for Food and Feed and ECDC

Case definition

During the 2007 year a total number of 432 positive cases of *Trichinella spiralis* in humans were registered

Diagnostic/ analytical methods used

ELISA

Notification system in place

Rapid Alert System for Food and Feed.

Results of the investigation

432 positive cases for trichinellosis in humans were registered in 2007 year.

Description of the positive cases detected during the reporting year

During the 2007 year a total number of 432 positive cases of *Trichinella spiralis* in humans were registered.

Table Trichinella in humans - Age distribution

Age Distribution	Trichinella spp.			F
	All	M		
<1 year	2			
1 to 4 years	26			
5 to 14 years	73			
15 to 24 years	65			
25 to 44 years	154			
45 to 64 years	81			
65 years and older	31			
Age unknown				
Total :	432	0		0

Footnote

Information Source resource: Center for Transmissible Zoonoses to Humans - Bucharest (hospitals)

2.8.3. Trichinella in animals

A. Trichinella in pigs

Number of officially recognised Trichinella-free holdings

No available data.

Categories of holdings officially recognised Trichinella-free

No available data.

Officially recognised regions with negligible Trichinella risk

No available data.

Monitoring system

Sampling strategy

General

Sampling is compulsory for all pigs slaughtered, intended to human consumption fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

The trichinelosis exam is performed for: each slaughtered pig, fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

For Trichinella free holdings

Sampling is compulsory for all pigs slaughtered, intended to human consumption fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

The trichinelosis exam is performed for: each slaughtered pig, fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

For categories of holdings officially recognised Trichinella-free

Sampling is compulsory for all pigs slaughtered, intended to human consumption fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

The trichinelosis exam is performed for: each slaughtered pig, fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

For regions with negligible Trichinella risk

Sampling is compulsory for all pigs slaughtered, intended to human consumption fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

The trichinelosis exam is performed for: each slaughtered pig, fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

Frequency of the sampling

General

Sampling is compulsory for all pigs slaughtered, intended to human consumption fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

The trichinelosis exam is performed for: each slaughtered pig, fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

For Trichinella free holdings

Sampling is compulsory for all pigs slaughtered, intended to human consumption fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market, in order to detect *Trichinella spiralis*.

The trichinelosis exam is performed for: each slaughtered pig, fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

For categories of holdings officially recognised Trichinella-free

Sampling is compulsory for all pigs slaughtered, intended to human consumption fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market, in order to detect *Trichinella spiralis*.

The trichinelosis exam is performed for: each slaughtered pig, fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market.

Type of specimen taken

General

pork meat (diafragm)

For Trichinella free holdings

pork meat (diafragm)

For categories of holdings officially recognised Trichinella-free

pork meat (diafragm)

For regions with negligible Trichinella risk

pork meat (diafragm)

Methods of sampling (description of sampling techniques)

General

according with the provisions of Regulation 2005/ 2075/ EC, in order to detect *Trichinella spiralis*.

For Trichinella free holdings

according with the provisions of Regulation 2005/ 2075/ EC, in order to detect *Trichinella spiralis*.

For categories of holdings officially recognised *Trichinella*-free

according with the provisions of Regulation 2005/ 2075/ EC, in order to detect *Trichinella spiralis*.

For regions with negligible *Trichinella* risk

according with the provisions of Regulation 2005/ 2075/ EC, in order to detect *Trichinella spiralis*.

Case definition

General

No available data.

For *Trichinella* free holdings

No available data.

For categories of holdings officially recognised *Trichinella*-free

No available data.

For regions with negligible *Trichinella* risk

No available data.

Diagnostic/ analytical methods used

General

Trichinelosis exam (direct microscopic method) on individual samples.
Artificial digestion method (on collective samples)- in slaughterhouses

For *Trichinella* free holdings

Trichinelosis exam (direct microscopic method) on individual samples.
Artificial digestion method (on collective samples)- in slaughterhouses

For categories of holdings officially recognised *Trichinella*-free

Trichinelosis exam (direct microscopic method) on individual samples.
Artificial digestion method (on collective samples)- in slaughterhouses

For regions with negligible *Trichinella* risk

Trichinelosis exam (direct microscopic method) on individual samples.
Artificial digestion method (on collective samples)- in slaughterhouses

Preventive measures in place

Sampling is compulsory for all pigs slaughtered, intended to human consumption fresh pork meat, preparation pork meat and raw products obtained from pork meat placed on the market, in order to detect *Trichinella spiralis* and to avoid human trichinelosis.

Control program/ mechanisms

The control program/ strategies in place

The Romanian Control Programme it's a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2008, yearly updated which is according with the provisions of Regulation 2005/ 2075/ EC, in order to detect *Trichinella spiralis*.

Measures in case of the positive findings or single cases

Pig meat contaminated with *Trichinella spiralis* have been withdrawn from human consumption and sent to the rendering establishments, in order to avoid human trichinelosis.

The contingency plan in place

No available data.

Notification system in place

Rapid Alert System for Food and Feed.

Results of the investigation including description of the positive cases and the verification of the *Trichinella* species

see the prevalence table in animals

Fattening pigs raised under controlled housing conditions in integrated production system

see the prevalence table in animals

Fattening pigs not raised under controlled housing conditions in integrated production system

see the prevalence table in animals

Breeding sows and boars

see the prevalence table in animals

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

During the year 2007, in Romania were detected a total number of 577 positive cases of *Trichinella spiralis*, from which:

- 62 positive cases from 1.711.526 analysed fattening pigs raised under controlled housing conditions in integrated production system.
- 515 positive cases from 441.174 analysed fattening pigs non raised under controlled housing

conditions in integrated production system (backyards)

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

The majority cases of trichinellosis detected to humans are related to the positive cases registered in fattening pigs coming from non controlled housing conditions in integrated system (backyards).

B. Trichinella in horses

Monitoring system

Sampling strategy

Sampling is compulsory for all slaughtered horses, intended to human consumption, in order to detect *Trichinella spiralis*.

The analysis is performed only by artificial digestion method, for each horse carcass at slaughterhouse.

For categories of holdings officially recognised *Trichinella*-free

Sampling is compulsory for all slaughtered horses, intended to human consumption, in order to detect *Trichinella spiralis*.

The analysis is performed only by artificial digestion method, for each horse carcass at slaughterhouse.

Frequency of the sampling

The analysis is performed only by artificial digestion method, for each horse carcass at slaughterhouse.

Type of specimen taken

horse meat

Methods of sampling (description of sampling techniques)

Sample is prepared in the laboratory and consist in 10 grames of horse meat.

Case definition

No positive cases in 2007.

Diagnostic/ analytical methods used

Artificial digestion.

Control program/ mechanisms

The control program/ strategies in place

The Romanian Control Programme it's a national programme, published in Romanian Official

Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2008, yearly updated which is according with the provisions of Regulation 2005/ 2075/ EC, in order to detect *Trichinella spiralis*.

Measures in case of the positive findings or single cases

A positive laboratory finding of *Trichinella* ssp it's followed by a notification by RASFF to all levels (central, regional and local).The positive horse meat have been withdrawn from human consumption and sent to ABP units.

Notification system in place

Rapid Alert System for Food and Feed

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

No positive samples in 2007 year.

Table Trichinella in animals

	Source of information	Sampling unit	Units tested	Total units positive for Trichinella spp.	T. spiralis	Trichinella spp., unspecified
Pigs (1)	SVFSL	slaughter batch	2190607	577	0	577
fattening pigs						
raised under controlled housing conditions in integrated production system	SVFSL	slaughter batch	1711526	62	0	62
not raised under controlled housing conditions in integrated production system	SVFSL	slaughter batch	441174	515	0	515
breeding animals unspecified						
sows and boars	SVFSL	slaughter batch	37907	0	0	0
Solipeds, domestic	SVFSL	slaughter batch	15682	0	0	0
horses	SVFSL	slaughter batch	15682	0	0	0
Wild boars						
wild	SVFSL	slaughter batch	4371	31	0	31
Bears	SVFSL	slaughter batch	63	8	0	8

(1) : slaughter and farm

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

There are not available data.

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

There are not available data.

2.9.2. Echinococcosis in humans

A. Echinococcus spp. in humans

Reporting system in place for the human cases

No available data at the national level.

2.9.3. Echinococcus in animals

Table Echinococcus 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) (1)	LSVFS*	herd	73631	5462	217	3634	1611
Sheep (2)	LSVFS*	slaughter batch	33066	3676	190	2276	1210
Goats	LSVFS	animal	1378	212	0	3	209
Pigs (3)	LSVFS*	slaughter batch	1711526	10245	455	5279	4511
Solipeds, domestic	LSVFS	slaughter batch	267	0	0	0	0
Dogs	LSVFS*	animal	4035	1832	1718	61	53
Wild boars							
- Surveillance	LSVFS*	animal	415	0	0	0	0

(1) : herd and slaughter

(2) : herd

(3) : herd and slaughter

Footnote

*Laboratory Sanitary Veterinary and Food Safety - county level

** the samples are from animal health and veterinary public health (slaughterhouses) surveillance Programme

2.10. TOXOPLASMOSIS

2.10.1. General evaluation of the national situation

2.10.2. Toxoplasmosis in humans

2.10.3. Toxoplasma in animals

2.11. RABIES

2.11.1. General evaluation of the national situation

2.11.2. Lyssavirus (rabies) in animals

2.12. Q-FEVER

2.12.1. General evaluation of the national situation

2.12.2. Coxiella (Q-fever) in animals

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1. ENTEROCOCCUS, NON-PATHOGENIC

3.1.1. General evaluation of the national situation

3.1.2. Antimicrobial resistance in Enterococcus, non-pathogenic isolates

3.2. *ESCHERICHIA COLI, NON-PATHOGENIC*

3.2.1. General evaluation of the national situation

3.2.2. Antimicrobial resistance in *Escherichia coli*, non-pathogenic isolates

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1. HISTAMINE**4.1.1. General evaluation of the national situation****4.1.2. Histamine in foodstuffs****Table Histamine in food**

	Source of information	Sampling unit	Sample weight	Units tested	Total units in non- conformity	≤ 100 mg/ kg	>100 - ≤ 200 mg/ kg	>200 - ≤ 400 mg/ kg	> 400 mg/ kg
Fish									
Fishery products from fish species associated with a high amount of histidine - not enzyme matured	SVFSL	single	10 g	276	0	274	2	0	0

Footnote

*surveillance and autochek

**fish species from Scrombidae, Clupeidae, Engraulidae, Coryfenidae, Pomatomidae, Scombresosidae

4.2. ENTEROBACTER SAKAZAKII

4.2.1. General evaluation of the national situation

4.2.2. Enterobacter sakazakii in foodstuffs

4.3. STAPHYLOCOCCAL ENTEROTOXINS**4.3.1. General evaluation of the national situation****4.3.2. Staphylococcal enterotoxins in foodstuffs****Table Staphylococcal enterotoxins in food**

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Cheeses made from cows' milk	SVFSL	batch		913	
soft and semi-soft	SVFSL	batch		580	
made from pasteurised milk	SVFSL	batch		0	
made from raw or low heat-treated milk	SVFSL	batch		580	
hard	SVFSL	batch		333	
made from raw or low heat-treated milk	SVFSL	batch		0	
made from pasteurised milk	SVFSL	batch		333	
Cheeses made from goats' milk	SVFSL	batch		19	
soft and semi-soft	SVFSL	batch		0	
made from raw or low heat-treated milk	SVFSL	batch		0	
made from pasteurised milk	SVFSL	batch		0	
hard	SVFSL	batch		19	
made from raw or low heat-treated milk	SVFSL	batch		0	
made from pasteurised milk	SVFSL	batch		19	
Cheeses made from sheep's milk	SVFSL	batch		79	
soft and semi-soft	SVFSL	batch		61	
made from raw or low heat-treated milk	SVFSL	batch		3	

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made from pasteurised milk	SVFSL	batch		58	
hard	SVFSL	batch		18	
made from raw or low heat-treated milk	SVFSL	batch		2	
made from pasteurised milk	SVFSL	batch		16	
Dairy products (excluding cheeses)	SVFSL	batch		131	
milk powder and whey powder	SVFSL	batch		131	

5. 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

Romanian National Programme for Surveillance of Zoonoses on 2007 year, Rapid Alert System for Food and Feed, National Sanitary Veterinary and Food Safety Authority Order no. 34/ 2006, which transposed Directive 2003/ 99/ EC.

The municipal public health authorities are responsible for detecting, preventing diseases related to food and water and for notifying to the other authorities involved. Ill persons and the overall epidemiological investigation are the responsibilities of the regional authorities (public health and veterinary public health authorities).

Description of the types of outbreaks covered by the reporting:

In general household outbreaks followed by general outbreaks.

The following results (table) include food borne outbreaks notified in the framework of mandatory notification.

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

In 2007, a total number of 42 food borne outbreaks were reported under the mandatory notification system. The causative agent was laboratory confirmed. The causative agent was identified based on epidemiological and laboratory findings.

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

The causative agent was isolated in the incriminated foodstuff or epidemiologically suspected (table). *Trichinella* was the most frequently identified agent in food borne disease outbreaks followed by *Staphylococcus aureus*.

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

Most of the outbreaks were reported to be linked to the private household and the most important factors contributing to food borne disease outbreaks reported were contamination of food through the use of contaminated raw material or transmitted by infected persons.

Control measures or other actions taken to improve the situation

All the control measures are described in Romanian Control Programme which it's a national programme, published in Romanian Official Journal as Order of the President of the National Sanitary Veterinary and Food Safety Authority no 300/ 21.12.2006 and yearly updated.

Foodborne Outbreaks: summarized data

	Total number of outbreaks	Number of possible outbreaks	Number of verified outbreaks
Bacillus	0	0	0
Campylobacter	0	0	0
Clostridium	5	0	5
Escherichia coli, pathogenic	0	0	0
Foodborne viruses	0	0	0
Listeria	0	0	0
Other agents	0	0	0
Parasites	17	0	17
Salmonella	5	0	5
Staphylococcus	10	0	10
Unknown	5	5	0
Yersinia	0	0	0

Verified Foodborne Outbreaks: detailed data

C. botulinum

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	1
Hospitalized	1
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff	fish tin suspicioned tested =negative
Type of evidence	Laboratory detection in human cases
Setting	Take-away or fast-food outlet
Place of origin of problem	Processing plant
Origin of foodstuff	Imported from outside EU
Contributory factors	Inadequate heat treatment
Outbreaks	1
Comment	toxin E - human test

C. botulinum

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	1
Hospitalized	1
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	pate, a traditional product with cabbage and meat cooked home, pate = negative
Type of evidence	Laboratory detection in human cases
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Inadequate heat treatment
Outbreaks	1
Comment	toxin B-human test

C. botulinum

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	1
Hospitalized	1
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	pig meat (backyard) the sample was negative
Type of evidence	Laboratory detection in human cases
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Cross-contamination
Outbreaks	1
Comment	toxin B-human test

C. botulinum

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	pig meat - pork ham (backyard) the sample was negative
Type of evidence	Laboratory detection in human cases
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Cross-contamination
Outbreaks	1
Comment	toxin B - human tests

C. botulinum

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	1
Hospitalized	1
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	pig meat (backyard) the sample was negative
Type of evidence	Laboratory detection in human cases
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Cross-contamination
Outbreaks	1
Comment	toxin B-human test

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	4
Hospitalized	4
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controled family consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	4
Hospitalized	4
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	sausage prepared from meat backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controlled family consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	3
Hospitalized	3
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controled family consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controled family consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controled family consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	10
Hospitalized	10
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controled family consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	18
Hospitalized	18
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controled family consume and neighborowghs

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	5
Hospitalized	5
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controledfamily consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	18
Hospitalized	18
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controledfamily consume and neighbourows

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	21
Hospitalized	21
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	wild boar
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controledfamily consume and neighbourows

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	13
Hospitalized	13
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controled

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	8
Hospitalized	8
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controledfamily consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	1
Hospitalized	1
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controled family consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	14
Hospitalized	14
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controled family consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	8
Hospitalized	8
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controled family consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	3
Hospitalized	3
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controled family consume

Trichinella

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	5
Hospitalized	5
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	backyard pig
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unprocessed contaminated ingredient
Outbreaks	1
Comment	not official controledfamily consume

S. Enteritidis

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	30
Hospitalized	10
Deaths	0
Foodstuff implicated	Cereal products including rice and seeds/pulses (nuts, almonds)
More Foodstuff	wheat product
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unknown
Outbreaks	1
Comment	private reunion

S. Enteritidis

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	10
Hospitalized	10
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff	wheat product
Type of evidence	Laboratory detection in human cases
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unknown
Outbreaks	1
Comment	private reunion

S. Enteritidis

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	60
Hospitalized	34
Deaths	0
Foodstuff implicated	Sweets and chocolate
More Foodstuff	cakes
Type of evidence	Laboratory detection in implicated food
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Catering services, restaurant
Origin of foodstuff	Intra community trade
Contributory factors	Infected food handler
Outbreaks	1
Comment	

S. Enteritidis

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	49
Hospitalized	43
Deaths	0
Foodstuff implicated	Sweets and chocolate
More Foodstuff	cheese pudding
Type of evidence	Laboratory detection in implicated food
Setting	School, kindergarten
Place of origin of problem	Catering services, restaurant
Origin of foodstuff	Intra community trade
Contributory factors	Infected food handler
Outbreaks	1
Comment	

S. Typhimurium

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	120
Hospitalized	30
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff	meat products
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Intra community trade
Contributory factors	
Outbreaks	1
Comment	private reunion

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S. aureus

Value

Code	
Subagent Choice	Staphylococcus; S. aureus; S. aureus enterotoxins
Outbreak type	General
Human cases	4
Hospitalized	4
Deaths	0
Foodstuff implicated	Dairy products (other than cheeses)
More Foodstuff	sour milk, raw milk tested,
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Unknown
Outbreaks	1
Comment	Staphiloccocus Mastitis

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S. aureus

Value

Code	
Subagent Choice	Staphylococcus; S. aureus; S. aureus enterotoxins
Outbreak type	Household
Human cases	3
Hospitalized	3
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff	sheep soft cheese
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Infected food handler
Outbreaks	1
Comment	Staphiloccocus coagulazo-pozitive

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S. aureus

Value

Code	
Subagent Choice	Staphylococcus; Staphylococcus spp., unspecified
Outbreak type	General
Human cases	5
Hospitalized	5
Deaths	0
Foodstuff implicated	Dairy products (other than cheeses)
More Foodstuff	sheep soft cheese
Type of evidence	Laboratory detection in human cases
Setting	Mobile retailer, market/street vendor
Place of origin of problem	Retail sale outlet
Origin of foodstuff	Intra community trade
Contributory factors	Infected food handler
Outbreaks	1
Comment	Infected worker (hands)

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S. aureus

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	7
Hospitalized	7
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff	soft goat and cow cheese
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Infected food handler
Outbreaks	1
Comment	Staphiloccocus

S. aureus

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff	soft goat cheese
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Infected food handler
Outbreaks	1
Comment	Staphiloccocus coagulazo-positive - coprological test poztive and soft goat cheese positive

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S. aureus

Value

Code	
Subagent Choice	Staphylococcus; S. aureus; S. aureus enterotoxins
Outbreak type	General
Human cases	14
Hospitalized	14
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff	mixed meniu and extra meniu
Type of evidence	Laboratory detection in human cases
Setting	School, kindergarten
Place of origin of problem	Catering services, restaurant
Origin of foodstuff	Intra community trade
Contributory factors	Inadequate heat treatment
Outbreaks	1
Comment	infected food contaminated by the workers with Staphiloccocus coagulazo-positive, Sallmonella enteritidis E coli enetropathogenic O33,

S. aureus

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	7
Hospitalized	7
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff	goat and cow chesse
Type of evidence	
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Inadequate heat treatment
Outbreaks	1
Comment	Staphiloccocus coagulazo-positive

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S. aureus

Value

Code	
Subagent Choice	
Outbreak type	General
Human cases	10
Hospitalized	6
Deaths	0
Foodstuff implicated	Cereal products including rice and seeds/pulses (nuts, almonds)
More Foodstuff	wheat product
Type of evidence	Laboratory detection in implicated food
Setting	Other setting
Place of origin of problem	Other place of origin
Origin of foodstuff	Domestic
Contributory factors	Infected food handler
Outbreaks	1
Comment	Staphiloccocus coagulazo-positive -

S. aureus

Value

Code	
Subagent Choice	
Outbreak type	Household
Human cases	1
Hospitalized	1
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff	soft cow chesse
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	Infected food handler
Outbreaks	1
Comment	Staphiloccocus coagulazo- positive

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S. aureus

Value

Code	
Subagent Choice	Staphylococcus; Staphylococcus spp., unspecified
Outbreak type	General
Human cases	13
Hospitalized	13
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff	soft cheese
Type of evidence	Laboratory detection in implicated food
Setting	Household
Place of origin of problem	Household, domestic kitchen
Origin of foodstuff	Domestic
Contributory factors	
Outbreaks	1
Comment	Staphiloccocus