European Food Safety Authority

ZOONOSES MONITORING

FRANCE

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

TRENDS AND SOURCES OF ZOONOSES 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 2011

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: France

Reporting Year: 2011

PREFACE

This report is submitted to the European Commission in accordance with Article 9 of Council Directive 2003/99/ EC*. The information has also been forwarded to the European Food Safety Authority (EFSA).

The report contains information on trends and sources of zoonoses and zoonotic agents in France during the year 2011 .

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.

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

List of Contents

1. ANIMAL POPULATIONS

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

A. Information on susceptible animal population

Sources of information

The sources of data are the "Central Service of the Statistical Surveys and Studies" and the "Food Safety Departement" (of the general directorate for food) of the French Ministry of Agriculture and Fisheries.

Dates the figures relate to and the content of the figures

The numbers of animals and indicated in the table correspond to animals present at the time the 31th of december of 2010 for the bovine, ovine, caprine and porcine species. For the numbers of holdings, the data date of 2009.

For broilers, the information of livestock comes from the survey on the "structure of the farms", which also are a survey answering Community legislation and which take place in 2003, 2005 and 2007 between the two censuses of 2000 and the one forseen in 2010.

The numbers of slaughtered animals and the detailed number of flocks of fowls, distributed according to the type of birds and the production sectors, are related to 2010. The numbers of slaughtered animals indicated in the table come from the "Central Service of the Statistical Surveys and Studies", whereas detailed numbers of fowl flocks come from the "Food Safety Departement".

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

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National evaluation of the numbers of susceptible population and trends in these figures

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

Some useful informations are available on the website: http://alimentation.gouv.fr
with other languages translation.

Additional information

Further information is given in the "Central Service of the Statistical Surveys and Studies" web site: http://www.agreste.agriculture.gouv.fr/
You can find updated figures.

Table Susceptible animal populations

* Only if different than current reporting year

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Cattle (bovine animals)	- in total [1)]	232592		5059481	2010	19005674		191425	2009
Ducks	- in total			78157000	2010	22531000	2010		
Gallus gallus (fowl)	breeding flocks for egg production line - in total	132				1157300			
	breeding flocks for meat production line - in total	1529				11442413			
	elite breeding flocks for egg production line	4							
	elite breeding flocks for meat production line	17							
	parent breeding flocks for egg production line	106							
	parent breeding flocks for meat production line	1338							
	grandparent breeding flocks for egg production line	22							
	grandparent breeding flocks for meat production line	12							
	laying hens	4000		52082000	2010	59566000			
	broilers	57182		786134000	2010				
Geese	- in total			815000	2010	615000	2010		

Table Susceptible animal populations

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Goats	- in total	128868		1174508	2010	1349031	2010	16052	2009
Pigs	- in total			25403794	2010	14531916	2010	29511	2009
Sheep	- in total	128868		6672101	2010	7976545	2010	57977	2009
Solipeds, domestic	horses - in total			17085	2010	453121	2010		
Turkeys	meat production flocks	8046		59747000	2010	48478317			
	parent breeding flocks	675							
	grandparent breeding flocks	12							
	elite breeding flocks	26							
	breeding flocks, unspecified - in total					1663761			
	- in total			59747000	2010	23596000	2010		

Comments:

[1)] For detailed figures per regions and per ages please see : http://www.agreste.agriculture.gouv.fr/

Footnote:

All the updated figures are available at : http://www.agreste.agriculture.gouv.fr/
The datas for gallus gallus and turkey comes from the control program against salmonella.

2. INFORMATION ON SPECIFIC ZOONOSES 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

See specific websites referenced below and information on:
http://www.invs.sante.fr/surveillance/salmonelloses_non_typhiques/default.htm
to have specific informations in humans.

For poultry, salmonella control program was launched in 1998 in breeders in breeding flocks of gallus gallus in laying hens with a voluntary and incitative aspect called "charte sanitaire" (Incitative insurance)

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

Approximately half of the collective FBO salmonella verified are linked to egg consumption.

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

In 2004, InVs has showed the link between the reduction of humans cases infected bt S. enteritids et the setting up of national control plan against salmonella in poultry.

Recent actions taken to control the zoonoses

The broilers and the turkeys are now included in the national salmonella control program together with layings hens.

Suggestions to the Community for the actions to be taken

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Additional information

Salmonella spp in animals

The Salmonella network is a national epidemiological surveillance network which specifically monitors salmonellae of non-human origin for the whole of the food chain. Complementary to the surveillance of salmonellae of human origin whose results are available at http://www.pasteur.fr/ip/easysite/go/03b-000042-02s/sante/centres-nationaux-de-reference-et-centres-collaborateurs-de-l-omscadrecnr/bordet-index.html, from the CNR for salmonella.

INVS is also implied in the surveillance:
For antimicrobial resistance issue consult:

Salmonella net:
Le réseau Salmonella on http://www.afssa.fr/index.htm
and
http://www.afssapro.fr/reseausalmonella/

Monitoring of antibiotics sales
http://www.anmv.afssa.fr/antibioresistance

Thematic folders: Antibiotics resistance
http://www.afssa.fr/index.htm
Resapath net
http://www.afssa.fr/Documents/LABO-Ra-Resapath2008.pdf

For AMR of salmonella in humans consult:
http://invs.sante.fr/surveillance/resistance/sources_donnees.htm#salmonelles and
http://invs.sante.fr/surveillance/resistance/plaquette_resistance_antibiotiques.pdf and
http://invs.sante.fr/surveillance/resistance/

2.1.2 Salmonellosis in humans

A. Salmonellosis in humans

Reporting system in place for the human cases

See invs website:
http://www.invs.sante.fr/surveillance/salmonelloses_non_typhiques/default.htm

Case definition

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Diagnostic/analytical methods used

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Notification system in place

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History of the disease and/or infection in the country

http://www.invs.sante.fr/surveillance/salmonelloses_non_typhiques/default.htm

Results of the investigation

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

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Relevance as zoonotic disease

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Additional information

useful informations about french surveillance of salmonella are available at:
http://www.pasteur.fr/ip/easysite/go/03b-00003q-03e/actualites-rapports

and

2.1.3 Salmonella in foodstuffs

A. Salmonella spp. in pig meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

See broiler meat principles are the same.

At meat processing plant

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At retail

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Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

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At meat processing plant

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At retail

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Definition of positive finding

At slaughterhouse and cutting plant

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At meat processing plant

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At retail

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Preventive measures in place

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Control program/mechanisms

The control program/strategies in place

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Recent actions taken to control the zoonoses

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Suggestions to the Community for the actions to be taken

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Measures in case of the positive findings or single cases

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Notification system in place

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Results of the investigation

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

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

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Additional information

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B. Salmonella spp. in bovine meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

See broiler meat principles are the same.

At meat processing plant

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At retail

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Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

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At meat processing plant

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At retail

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Definition of positive finding

At slaughterhouse and cutting plant

--

At meat processing plant

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At retail

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Preventive measures in place

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Control program/mechanisms

The control program/strategies in place

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Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

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Measures in case of the positive findings or single cases

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Notification system in place

Results of the investigation

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

--

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

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Additional information

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C. Salmonella spp. in broiler meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

Slaughterhouses operators must set up a own-check control plan in accordance with 2073-2005.

At meat processing plant

For minced meat and meat preparation of broiler meat intended to be eaten cooked, mechanically separated meat, products derivated from broilers meat intended to be eaten raw (except if risk salmonella is reduced to 0, due to cleaning up food processing), or to be eaten cooked: own check control plan in accordance with 2073-2005.
Food business operators have to establish an HACCP plan with several own-check controls (reception, during manufactring process).

At retail

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Frequency of the sampling

At slaughterhouse and cutting plant

Other: n=50 c=7
10 successive samplings (5*10)

At meat processing plant

In accordance with 2073-2005 for category minced meat and meat products intended to be eaten cooked, or mech. sep. meat.
Described in the Specific HACCP plan for category of meat missing from this regulation. The food business operator must do analyses taking into account quantity and type of products.

Type of specimen taken

At slaughterhouse and cutting plant

Other: skin neck after drying

At meat processing plant

Own check on finished products (2073-2005)
In specific HACCP: raw materials, process, finished products.

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

Skin neck at slaughterhouse

At meat processing plant

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At retail

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Definition of positive finding

At slaughterhouse and cutting plant

7 positive results are accepted
Absent of salmonella in 25g

At meat processing plant

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At retail

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Control program/mechanisms

The control program/strategies in place

Monitoring plan on campylobacter and salmonella in the frame of Directive EC n°2003-99. This plan of sampling tests the efficiency of the HACCP measure set up in the plant or the slaugherhouse.
The organisation of monitoring plan is done in close cooperation with DGCCRF (directorate for competition policy consumer affairs and fraud control, ministry of economy), DGS (Directorate for health, ministry of health) AFSSA and InVS (institute of sanitary surveillance).

Recent actions taken to control the zoonoses

In 2010, other plants to find accurate manufacturing process criteria.

Suggestions to the Community for the actions to be taken

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Measures in case of the positive findings or single cases

In presence of positive case, the fbo must increase hygiene measures and make an epidemiological survey to find the origin of the contamination.
No measure for chicken cutting products intended to be cooked as there is no microbiological criteria for this category of products.
Market withdrawal is the product is in non-conformity security criterion.

Notification system in place

For category of products where there is a security criteria.

Results of the investigation

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

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

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Additional information

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D. Salmonella spp. in eggs and egg products

Monitoring system

Sampling strategy

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Methods of sampling (description of sampling techniques)

Eggs at egg packing centres (foodstuff based approach)

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Eggs at retail

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Raw material for egg products (at production plant)

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Egg products (at production plant and at retail)

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Definition of positive finding

Eggs at egg packing centres (foodstuff based approach)

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Eggs at retail

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Raw material for egg products (at production plant)

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Egg products (at production plant and at retail)

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Preventive measures in place

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Control program/mechanisms

The control program/strategies in place

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Recent actions taken to control the zoonoses

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Suggestions to the Community for the actions to be taken

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Measures in case of the positive findings

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Notification system in place

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Results of the investigation

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

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

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Additional information

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E. Salmonella spp. in turkey meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

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At meat processing plant

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At retail

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Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

--

At meat processing plant

--

At retail

--

Definition of positive finding

At slaughterhouse and cutting plant

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At meat processing plant

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At retail

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Preventive measures in place

--

Control program/mechanisms

The control program/strategies in place

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

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Measures in case of the positive findings or single cases

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Notification system in place

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Results of the investigation

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

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

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Additional information

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Table Salmonella in poultry meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance [1)]	CCA	Objective sampling	Official sampling	food sample > meat		Single	25g	68	2	0	1

	Salmonella spp., unspecified
Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance [1)]	1

Comments:

[1)] n=5

Table Salmonella in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Fruits - pre-cut - ready-to-eat - at retail - Surveillance [1)]	CCA	Objective sampling	Official sampling	food sample		Single	25g	1240	0	0	0
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance [2)]	CCA	Objective sampling	Official sampling	food sample > meat		Single	10g	91	11	0	3
Meat, mixed meat - meat preparation - intended to be eaten cooked - at processing plant - Surveillance (Mixed meat : poultry and pig) [3)]	CCA	Objective sampling	Official sampling	food sample > meat		Single	10g	20	0	0	0
Other food - at retail - Surveillance (Pastries) [4)]	CCA	Objective sampling	Official sampling	food sample		Single	25g	2620	1	0	0

	Salmonella spp., unspecified	S. Derby	S. Infantis	S. Virchow
Fruits - pre-cut - ready-to-eat - at retail - Surveillance [1)]	0	0		0
Meat from pig - meat preparation - intended to be eaten cooked - at processing plant - Surveillance [2)]	6	2	1	1
Meat, mixed meat - meat preparation - intended to be eaten cooked - at processing plant - Surveillance (Mixed meat : poultry and pig) [3)]	0	0	0	0
Other food - at retail - Surveillance (Pastries) [4)]	1	0	0	0

Comments:

[1)] analytical method : NF EN ISO 6579

Table Salmonella in other food

Comments:

[2)] n=5

[3)] n=5

[4)] analytical method : NF EN ISO 6579

Table Salmonella in red meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from bovine animals - minced meat - intended to be eaten cooked - at processing plant - Surveillance [1)]	CCA	Objective sampling	Official sampling	food sample > meat		Single	10g	1878	5	0	0

	Salmonella spp., unspecified	S. Dublin	S. Infantis
Meat from bovine animals - minced meat - intended to be eaten cooked - at processing plant - Surveillance [1)]	0	3	2

Comments:

[1)] Analytical method : NF EN ISO 6579

2.1.4 Salmonella in animals

A. Salmonella spp. in Gallus Gallus - breeding flocks

Monitoring system

Sampling strategy

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

In accordance with regulations (EC) n°2160/2003 and 200/2010 (ex.1003/2005), all the flocks are sampled.

Frequency of the sampling

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

Every flock is sampled

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

At the age of 4 weeks and 2 weeks prior moving

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

Within 4 weeks after setting, and at the age of 34, 42, 50 weeks and within 8 weeks before culling (breeders for meat production line) , within 4 weeks after setting and at the age of 38, 54 weeks and within 8 weeks before culling (breeders for egg production line), and every 2 weeks at the hatchery

Type of specimen taken

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

Internal linings of delivery boxes

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

Environmental sample: boot swabs and chiffonnettes

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

Other: boot swabs and chiffonnettes (holding), internal liners of hatching boxes (hatchery), chiffonettes, egg-shell.

Methods of sampling (description of sampling techniques)

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

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

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Breeding flocks: Production period

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Case definition

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

A positive case is a flock where at least 1 sample gives a positive result for Salmonella Enteritidis, Typhimurium, Hadar, Infantis, Virchow or ST like.

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

A positive case is a flock where at least 1 sample gives a positive result for Salmonella Enteritidis, Typhimurium, Hadar, Infantis, Virchow or ST like .

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

A positive case is a flock were 2 rows of sampling give a positive result for Salmonella Enteritidis, Typhimurium, Hadar, Infantis, Virchow or ST like on at least on sample.

Diagnostic/analytical methods used

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

Bacteriological method: NF U 47 100 and NF U 47 101

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

Bacteriological method: NF U 47 100 and NF U 47 101

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

Bacteriological method: NF U 47 100 and NF U 47 101

Vaccination policy

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

Vaccination is forbidden for all breeders of the egg production line.
Vaccination is forbidden for grandparents and elite of the meat production line, but authorized for parents of this line (only inactivated vaccines).

Other preventive measures than vaccination in place

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

The respect of good hygiene practices covered by the "Charte Sanitaire" is mandatory to get a financial compensation in case of infection.

Control program/mechanisms

The control program/strategies in place

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

All positive flocks for SE, ST, SH, SI, SV are slaughtered, and their products destroyed or heat treated. Carcasses are heat treated if Salmonella is identified within muscles.

Recent actions taken to control the zoonoses

Since 2009, french regulations now take into account Typhimurium-like serotype.

Suggestions to the Community for the actions to be taken

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Measures in case of the positive findings or single cases

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

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Notification system in place

Notification to central competent authorities is mandatory

Results of the investigation

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

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

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Additional information

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B. Salmonella spp. in Gallus Gallus - broiler flocks

Monitoring system

Sampling strategy

Broiler flocks

The national control programme started on january 09.

Type of specimen taken

Broiler flocks: Before slaughter at farm

Other: Chiffonettes, bootswabs

Methods of sampling (description of sampling techniques)

Broiler flocks: Day-old chicks

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Broiler flocks: Rearing period

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Broiler flocks: Before slaughter at farm

2 pairs of boot swabs (in accordance with EC N°646/2007).

Broiler flocks: At slaughter (flock based approach)

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Case definition

Broiler flocks: Day-old chicks

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Broiler flocks: Rearing period

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Broiler flocks: Before slaughter at farm

If 1 sample is positive for ST or SE or ST like

Broiler flocks: At slaughter (flock based approach)

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Vaccination policy

Broiler flocks

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Other preventive measures than vaccination in place

Broiler flocks

Some basic good hygiene practises and biosecurity measures are mandatory.

Control program/mechanisms

The control program/strategies in place

Broiler flocks

Cleaning and disinfection are mandatory if one sample was positive for ST or SE or ST like. Heat treatment of carcasses is mandatory if salmonella is found in muscles.

Recent actions taken to control the zoonoses

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Suggestions to the Community for the actions to be taken

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Measures in case of the positive findings or single cases

Broiler flocks: Day-old chicks

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Broiler flocks: Rearing period

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Broiler flocks: Before slaughter at farm

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Broiler flocks: At slaughter (flock based approach)

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Notification system in place

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Results of the investigation

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

--

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

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Additional information

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

Monitoring system

Sampling strategy

Laying hens flocks

sampling in accordance with regulations (EC) n°2160/2003 and 1168/2006 + extra samples commensurate with flock size

Frequency of the sampling

Laying hens: Day-old chicks

Every flock is sampled

Laying hens: Rearing period

At the age of 4 weeks and 2 weeks prior moving.

Laying hens: Production period

At the age of 24 weeks and every 15 weeks

Laying hens: Before slaughter at farm

6 or 10 weeks prior to slaughter (10 weeks for flocks in cage and 6 for the others)

Type of specimen taken

Laying hens: Day-old chicks

Internal linings of delivery boxes

Laying hens: Rearing period

Environmental sample: boot swabs and chiffonnettes

Laying hens: Production period

Environmental sample: boot swabs and chiffonnettes, and also feed for large flocks

Laying hens: Before slaughter at farm

Environmental sample: boot swabs and chiffonnettes, and also feed for large flocks

Methods of sampling (description of sampling techniques)

Laying hens: Day-old chicks

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Laying hens: Rearing period

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Laying hens: Production period

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Laying hens: Before slaughter at farm

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Laying hens: At slaughter

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Eggs at packing centre (flock based approach)

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Case definition

Laying hens: Day-old chicks

A positive case is a flock were 2 rows of sampling give a positive result for Salmonella Enteritidis or Typhimurium or ST like on at least on sample.
In France, we perform 2 rows of confirmation sampling, which means that if the first row is completely negative, we perform a second one.

Laying hens: Rearing period

A positive case is a flock were 2 rows of sampling give a positive result for Salmonella Enteritidis or Typhimurium or ST like on at least on sample.
In France, we perform 2 rows of confirmation sampling, which means that if the first row is completely negative, we perform a second one.

Laying hens: Production period

A positive case is a flock were 2 rows of sampling give a positive result for Salmonella Enteritidis or Typhimurium or ST like on at least on sample.
In France, we perform 2 rows of confirmation sampling, which means that if the first row is completely negative, we perform a second one.

Laying hens: Before slaughter at farm

A positive case is a flock were 2 rows of sampling give a positive result for Salmonella Enteritidis or Typhimurium or ST like on at least on sample.
In France, we perform 2 rows of confirmation sampling, which means that if the first row is completely negative, we perform a second one.

Laying hens: At slaughter

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Eggs at packing centre (flock based approach)

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Diagnostic/analytical methods used

Laying hens: Day-old chicks

Bacteriological method: NF U 47 100 and NF U 47 101

Laying hens: Rearing period

Bacteriological method: NF U 47 100 and NF U 47 101

Laying hens: Production period

Bacteriological method: NF U 47 100 and NF U 47 101

Laying hens: Before slaughter at farm

Bacteriological method: NF U 47 100 and NF U 47 101

Vaccination policy

Laying hens flocks

Vaccination is authorized with inactivated vaccines, and in few supervised cases with life vaccines.

Other preventive measures than vaccination in place

Laying hens flocks

The respect of good hygiene practices covered is mandatory to get a financial compensation in case of

infection.

Control program/mechanisms

The control program/strategies in place

Laying hens flocks

All the positive flocks of pullets are slaughtered; slaugher of positive flocks of laying hens is also mandatory to get a financial compensation. In all cases, products are destoyed or heat treated. Carcasses are heat treated if Salmonella is identified within muscles.

Recent actions taken to control the zoonoses

French regulations now take into account Typhimurium-like serotypes

Suggestions to the Community for the actions to be taken

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Measures in case of the positive findings or single cases

Laying hens flocks

--

Notification system in place

Notification of SE, ST ST like to central competent authorities is mandatory.

Results of the investigation

--

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

Report on implementation of the Salmonella control plan
in Gallus gallus flocks in 2009
The mandatory control programme for Salmonella in flocks of Gallus gallus species (chickens) implemented in France over the past 10 years is yielding results. In the reproductive phase, in which 5 serotypes are monitored and controlled, only 6 flocks have been found to be positive for Salmonella Enteritidis. The rate of infection with Salmonella Enteritidis and Salmonella Typhimurium of layers of eggs for consumption decreased by 19% between 2008 and 2009. Finally, in the first year of implementation of the programme in flocks of slaughter chickens, the number of flocks which tested positive (188) for Enteritidis and Typhimurium puts prevalence in France below target EU reduction levels, even though the total number of tested flocks was probably underestimated. The financial aid system mainly involves compensation for early slaughter of animals covered by the Health Charter. The reduction in the number of cases has thus led to a reduction in the overall budget allocated to the management programme. These results demonstrate the relevance of the strategies adopted to date, particularly concerning the number of samples and the criteria for accrediting producers as complying with the Health Charter

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

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Additional information

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D. Salmonella spp. in bovine animals

Monitoring system

Sampling strategy

--

Methods of sampling (description of sampling techniques)

Animals at farm

--

Animals at slaughter (herd based approach)

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Case definition

Animals at farm

--

Animals at slaughter (herd based approach)

--

Vaccination policy

--

Other preventive measures than vaccination in place

--

Control program/mechanisms

The control program/strategies in place

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

--

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

--

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

--

Additional information

--

E. Salmonella spp. in ducks - breeding flocks and meat production flocks

Monitoring system

Sampling strategy

Breeding flocks

--

Meat production flocks

--

Methods of sampling (description of sampling techniques)

Breeding flocks: Day-old chicks

--

Breeding flocks: Rearing period

--

Breeding flocks: Production period

--

Meat production flocks: Day-old chicks

--

Meat production flocks: Rearing period

--

Meat production flocks: Before slaughter at farm

--

Meat production flocks: At slaughter (flock based approach)

--

Case definition

Breeding flocks: Day-old chicks

--

Breeding flocks: Rearing period

--

Breeding flocks: Production period

--

Meat production flocks: Day-old chicks

--

Meat production flocks: Rearing period

--

Meat production flocks: Before slaughter at farm

--

Meat production flocks: At slaughter (flock based approach)

--

Vaccination policy

Breeding flocks

--

Meat production flocks

--

Other preventive measures than vaccination in place

Breeding flocks

--

Meat production flocks

--

Control program/mechanisms

The control program/strategies in place

Breeding flocks

--

Meat production flocks

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

--

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

--

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

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Additional information

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F. Salmonella spp. in geese - breeding flocks and meat production flocks

Monitoring system

Sampling strategy

Breeding flocks

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Type of specimen taken

Imported feed material of animal origin

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Methods of sampling (description of sampling techniques)

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

--

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

--

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

--

Meat production flocks: Day-old chicks

--

Meat production flocks: Rearing period

Meat production flocks: Before slaughter at farm

--

Meat production flocks: At slaughter (flock based approach)

--

Case definition

Breeding flocks: Day-old chicks

--

Breeding flocks: Rearing period

--

Breeding flocks: Production period

--

Meat production flocks: Day-old chicks

--

Meat production flocks: Rearing period

--

Meat production flocks: Before slaughter at farm

--

Meat production flocks: At slaughter (flock based approach)

--

Vaccination policy

Breeding flocks

--

Meat production flocks

--

Other preventive measures than vaccination in place

Breeding flocks

--

Meat production flocks

--

Control program/mechanisms

The control program/strategies in place

Breeding flocks

--

Meat production flocks

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

Breeding flocks

--

Meat Production flocks

--

Notification system in place

--

Results of the investigation

--

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

--

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

--

Additional information

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G. Salmonella spp. in pigs

Monitoring system

Sampling strategy

Breeding herds

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Multiplying herds

--

Fattening herds

--

Methods of sampling (description of sampling techniques)

Breeding herds

--

Multiplying herds

--

Fattening herds at farm

--

Fattening herds at slaughterhouse (herd based approach)

--

Case definition

Breeding herds

--

Multiplying herds

--

Fattening herds at farm

--

Fattening herds at slaughterhouse (herd based approach)

--

Vaccination policy

Breeding herds

--

Multiplying herds

--

Fattening herds

--

Other preventive measures than vaccination in place

Breeding herds

--

Multiplying herds

--

Fattening herds

--

Control program/mechanisms

The control program/strategies in place

Breeding herds

--

Multiplying herds

--

Fattening herds

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

--

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

--

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

--

Additional information

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

Monitoring system

Sampling strategy

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

In accordance with regulations EC N°2160-2003 and 584-2008 all the flocks are sampled.

Meat production flocks

In accordance with regulations EC N°2160-2003 and 584-2008 all the flocks are sampled.

Frequency of the sampling

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

Every flock is sampled

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

At the age of 4 weeks and 2 weeks prior moving

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

Every 3 weeks

Meat production flocks: Before slaughter at farm

3 weeks prior to slaughter

Type of specimen taken

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

Internal linings of delivery boxes

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

Other: bootswabs, socks and chiffonettes

Meat production flocks: Day-old chicks

Internal linings of delivery boxes

Meat production flocks: Before slaughter at farm

Other: Other: bootswabs, socks and chiffonettes_

Methods of sampling (description of sampling techniques)

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

In accordance with EU 584 2008

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

In accordance with EU 584 2008

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

In accordance with EU 584 2008

Meat production flocks: Day-old chicks

In accordance with EU 584 2008

Meat production flocks: Rearing period

In accordance with EU 584 2008

Meat production flocks: Before slaughter at farm

In accordance with EU 584 2008

Meat production flocks: At slaughter (flock based approach)

In accordance with EU 584 2008

Case definition

A positive case is a flock where at least one sample was positive for SE or ST

Monitoring system

Case definition

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

A positive case is a flock where at least one sample was positive for SE or ST

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

A positive case is a flock where at least one sample was positive for SE or ST

Meat production flocks: Day-old chicks

A positive case is a flock where at least one sample was positive for SE or ST

Meat production flocks: Rearing period

A positive case is a flock where at least one sample was positive for SE or ST

Meat production flocks: Before slaughter at farm

A positive case is a flock where at least one sample was positive for SE or ST

Meat production flocks: At slaughter (flock based approach)

A positive case is a flock where at least one sample was positive for SE or ST

Diagnostic/analytical methods used

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

Other: NFU 47 100 et 47101

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

Other: NFU 47 100 et 47101

Meat production flocks: Day-old chicks

Other: NFU 47 100 et 47101

Meat production flocks: Rearing period

Other: NFU 47 100 et 47101

Meat production flocks: Before slaughter at farm

Other: NFU 47 100 et 47101

Meat production flocks: At slaughter (flock based approach)

Other: NFU 47 100 et 47101

Vaccination policy

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

Elite vaccination is Forbidden, parents vaccination is authorised with inactivated vaccines only

Meat production flocks

--

Other preventive measures than vaccination in place

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

The respect of good hygiene practises and biosecurity covered by "charte hygiène" (incitative insurance) is mandatory to get financial compensation in case of infection.

Meat production flocks

Basic good hygiène practises are mandatory

Control program/mechanisms

The control program/strategies in place

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

All the bredding flocks for SE or ST are slaughtered and their products are destroyed or heat-treated. Carcasses are heat-treated if salmonella is identified in the muscle.

Meat production flocks

Cleaning and desinfection is mandatory after any postive result. Heat treatment is mandatory if salmonella is found in muscles.

Recent actions taken to control the zoonoses

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Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

--

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

This program started on the 1st january 2010.

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

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Additional information

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Table Salmonella in breeding flocks of Gallus gallus

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes [1)]	1661	CCA	Suspect sampling	Official sampling	environmental sample		no	Flock	10	5	0
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - Control and eradication programmes [2)]	60	CCA	Census	Official and industry sampling	environmental sample		no	Flock	60	0	0
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - Control and eradication programmes	106	CCA	Census	Official and industry sampling	environmental sample		yes	Flock	106	0	0
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - during rearing period - Control and eradication programmes [3)]	26	CCA	Census	Official and industry sampling	environmental sample		no	Flock	26	0	0
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - adult - Control and eradication programmes	22	CCA	Census	Official and industry sampling	environmental sample		yes	Flock	22	0	0
Gallus gallus (fowl) - elite breeding flocks for egg production line - during rearing period - Control and eradication programmes [4)]	1	CCA	Census	Official and industry sampling	environmental sample		no	Flock	1	0	0
Gallus gallus (fowl) - elite breeding flocks for egg production line - adult - Control and eradication programmes	4	CCA	Census	Official and industry sampling	environmental sample		yes	Flock	4	0	0
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period - Control and eradication programmes [5)]	1086	CCA	Census	Official and industry sampling	environmental sample		no	Flock	1086	1	0
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - Control and eradication programmes	1338	CCA	Census	Official and industry sampling	environmental sample		yes	Flock	1338	4	0

Table Salmonella in breeding flocks of Gallus gallus

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - during rearing period - Control and eradication programmes [6)]	184	CCA	Census	Official and industry sampling	environmental sample		no	Flock	184	0	0
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - adult - Control and eradication programmes	174	CCA	Census	Official and industry sampling	environmental sample		yes	Flock	174	1	0
Gallus gallus (fowl) - elite breeding flocks for broiler production line - during rearing period - Control and eradication programmes [7)]	66	CCA	Census	Official sampling	environmental sample		no	Flock	66	0	0
Gallus gallus (fowl) - elite breeding flocks for broiler production line - adult - Control and eradication programmes [8)]	17	CCA	Census	Official sampling	environmental sample		yes	Flock	17	0	0
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult - Control and eradication programmes [9)]	1444	CCA	Census	Official sampling	environmental sample		yes	Flock	1444	0	0
Gallus gallus (fowl) - grandparent breeding flocks, unspecified - adult - Control and eradication programmes [10)]	196	CCA	Census	Official sampling	environmental sample		yes	Flock	196	0	0
Gallus gallus (fowl) - elite breeding flocks, unspecified - adult - Control and eradication programmes [11)]	21	CCA	Census	Official sampling	environmental sample		yes	Flock	21	0	0
Gallus gallus (fowl) - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes [12)]	1423	CCA	Suspect sampling	Official sampling	environmental sample		no	Flock	2	1	0

Table Salmonella in breeding flocks of Gallus gallus

	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes [1)]	0	0	5	0	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - Control and eradication programmes [2)]	0	0	0	0	0	
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - Control and eradication programmes	0	0	0	0	0	
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - during rearing period - Control and eradication programmes [3)]	0	0	0	0	0	
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - adult - Control and eradication programmes	0	0	0	0	0	
Gallus gallus (fowl) - elite breeding flocks for egg production line - during rearing period - Control and eradication programmes [4)]	0	0	0	0	0	
Gallus gallus (fowl) - elite breeding flocks for egg production line - adult - Control and eradication programmes	0	0	0	0	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period - Control and eradication programmes [5)]	0	1	0	0	0	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - Control and eradication programmes	0	0	4	0	0	

Table Salmonella in breeding flocks of Gallus gallus

	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - during rearing period - Control and eradication programmes [6)]	0	0	0	0	0	
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - adult - Control and eradication programmes	0	0	1	0	0	
Gallus gallus (fowl) - elite breeding flocks for broiler production line - during rearing period - Control and eradication programmes [7)]	0	0	0	0	0	
Gallus gallus (fowl) - elite breeding flocks for broiler production line - adult - Control and eradication programmes [8)]	0	0	0	0	0	
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult - Control and eradication programmes [9)]	0	0	0	0	0	
Gallus gallus (fowl) - grandparent breeding flocks, unspecified - adult - Control and eradication programmes [10)]	0	0	0	0	0	
Gallus gallus (fowl) - elite breeding flocks, unspecified - adult - Control and eradication programmes [11)]	0	0	0	0	0	
Gallus gallus (fowl) - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes [12)]	0	1	0	0	0	

Comments:

[1)] no UE and no FR target. In France, any result of analysis allowing to suspect the presence of Salmonella Enteritidis, Salmonella Typhimurium, Salmonella Hadar, Salmonella Infantis or Salmonella Virchow in a herd of breeder or Salmonella Enteritidis, Salmonella Typhimurium in a herd of broilers constitutes

Table Salmonella in breeding flocks of Gallus gallus

Comments:

a suspicion of infection. The local competent authority makes controls of confirmation in the suspect herds. The suspicion is confirmed by a positive result on the herd. The suspicion is cancelled by two negative results on the herd. That is the reason why in 2011, on 10 suspect herds to be infected by Salmonella, 5 herds were confirmed infected. These 5 herds correspond to the lines below : - "Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - Control and eradication" and - "Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - adult - Control and eradication programmes"

[2] no UE and no FR target

[3] no UE and no FR target

[4] no UE and no FR target

[5] no UE and no FR target

[6] no UE and no FR target

[7] 66 tested flocks twice

[8] 17 tested flocks twice

[9] 1444 tested flocks twice

[10] 196 tested flocks twice

[11] 21 tested flocks twice

[12] no UE and no FR target. In France, any result of analysis allowing to suspect the presence of Salmonella Enteritidis, Salmonella Typhimurium, Salmonella Hadar, Salmonella Infantis or Salmonella Virchow in a herd of breeder or Salmonella Enteritidis, Salmonella Typhimurium in a herd of broilers constitutes a suspicion of infection. The local competent authority makes controls of confirmation in the suspect herds. The suspicion is confirmed by a positive result on the herd. The suspicion is cancelled by two negative results on the herd. That is the reason why in 2011, on 2 suspect herds to be infected by Salmonella, 1 herd was confirmed infected. Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - adult - Control and eradication programmes"

Table Salmonella in other poultry

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes [1)]	2060	CCA	Census	Official and industry sampling	environmental sample		no	Flock	2060	3	0
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	4000	CCA	Census	Official and industry sampling	environmental sample		yes	Flock	4000	58	38
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	57182	CCA	Census	Official and industry sampling	environmental sample		yes	Flock	57182	1923	82
Turkeys - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes [2)]	459	CCA	Census	Official and industry sampling	environmental sample		no	Flock	459	3	1
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes	687	CCA	Census	Official and industry sampling	environmental sample		yes	Flock	687	2	0
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes	8046	CCA	Census	Official and industry sampling	environmental sample		yes	Flock	8046	569	14
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes [3)]	4000	CCA	Suspect sampling	Official sampling	environmental sample		no	Flock	2	0	0
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes [4)]	4000	CCA	Suspect sampling	Official sampling	environmental sample		no	Flock	48	6	4
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes [5)]	4000	CCA	Suspect sampling	Official sampling	environmental sample		no	Flock	77	51	34
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes [6)]	4000	CCA	Selective sampling	Official sampling	environmental sample		no	Flock	72	1	0

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes [1)]	1	2	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	19	1	
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	178	19	1644
Turkeys - breeding flocks, unspecified - during rearing period - at farm - Control and eradication programmes [2)]	2	0	
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes	2	0	
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes	47		508
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes [3)]	0	0	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes [4)]	2	0	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes [5)]	16	1	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes [6)]	1	0	

Comments:

[1)] no UE and no FR target

[2)] no UE and no FR target

Table Salmonella in other poultry

Comments:

[3)] RGL 517/2011 annexe point 2.1 c)

[4)] RGL 517/2011 annexe point 2.1 d)

[5)] RGL 517/2011 annexe point 2.1 e) in France an official control for confirmation is made after each positive result of Salmonella enteritidis or typhimurium or i: -

[6)] RGL 517/2011 annexe point 2.1 b)

2.1.5 Salmonella in feedingstuffs

Table Salmonella in compound feedingstuffs

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Compound feedingstuffs for pigs - final product - at feed mill - Surveillance [1)]	CCA (DGCCRF)	Selective sampling	Official sampling	feed sample		Single	100g	1	0		
Compound feedingstuffs for poultry (non specified) - final product - at feed mill - Surveillance [2)]	CCA (DGCCRF)	Selective sampling	Official sampling	feed sample		Single	100g	25	0		
Compound feedingstuffs for poultry - breeders - final product - at feed mill - Surveillance [3)]	CCA (DGCCRF)	Selective sampling	Official sampling	feed sample		Single	100g	18	0		
Compound feedingstuffs for poultry - laying hens - final product - at feed mill - Surveillance [4)]	CCA (DGCCRF)	Selective sampling	Official sampling	feed sample		Single	100g	51	0		
Compound feedingstuffs for poultry - broilers - final product - at feed mill - Surveillance [5)]	CCA (DGCCRF)	Selective sampling	Official sampling	feed sample		Single	100g	90	0		
Compound feedingstuffs for pigs - final product - at feed mill - Surveillance (Sampling realized by DGAL (food directorate))	CCA (DGAL)	Objective sampling	Official sampling	feed sample		Single	100g	86	0		
Compound feedingstuffs for poultry (non specified) - final product - at feed mill - Surveillance (Sampling realized by DGAL (food directorate))	CCA (DGAL)	Objective sampling	Official sampling	feed sample		Single	100g	110	0		
Compound feedingstuffs for rabbits - final product - at feed mill - Surveillance [6)]	CCA (DGCCRF)	Selective sampling	Official sampling	feed sample		Single	100g	1	0		
Compound feedingstuffs, not specified - final product - at feed mill - Surveillance [7)]	CCA (DGCCRF)	Selective sampling	Official sampling	feed sample		Single	100g	3	0		

Table Salmonella in compound feedingstuffs

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Compound feedingstuffs, not specified - final product - at feed mill - Surveillance (Sampling realized by DGAL (food directorate))	CCA (DGAL)	Objective sampling	Official sampling	feed sample		Single	100g	23	0		

	Salmonella spp., unspecified
Compound feedingstuffs for pigs - final product - at feed mill - Surveillance [1)]	
Compound feedingstuffs for poultry (non specified) - final product - at feed mill - Surveillance [2)]	
Compound feedingstuffs for poultry - breeders - final product - at feed mill - Surveillance [3)]	
Compound feedingstuffs for poultry - laying hens - final product - at feed mill - Surveillance [4)]	
Compound feedingstuffs for poultry - broilers - final product - at feed mill - Surveillance [5)]	
Compound feedingstuffs for pigs - final product - at feed mill - Surveillance (Sampling realized by DGAL (food directorate))	
Compound feedingstuffs for poultry (non specified) - final product - at feed mill - Surveillance (Sampling realized by DGAL (food directorate))	

Table Salmonella in compound feedingstuffs

		Salmonella spp., unspecified
Compound feedingstuffs for rabbits - final product - at feed mill - Surveillance	6)	
Compound feedingstuffs, not specified - final product - at feed mill - Surveillance	7)	
Compound feedingstuffs, not specified - final product - at feed mill - Surveillance (Sampling realized by DGAL (food directorate))		

Comments:

1) Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

2) Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

3) Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

4) Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

5) Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

6) Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

7) Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

Table Salmonella in feed material of animal origin

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Feed material of marine animal origin - fish meal - at feed mill - Surveillance [1)]	CCA (DGCCRF)	Selective sampling	Official sampling	feed sample		Single	100g	1	0		

	Salmonella spp., unspecified
Feed material of marine animal origin - fish meal - at feed mill - Surveillance [1)]	

Comments:

[1)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

Table Salmonella in other feed matter

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Feed material of cereal grain origin - barley derived - at feed mill - Surveillance [1)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	3	0		
Feed material of cereal grain origin - wheat derived - at feed mill - Surveillance [2)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	15	0		
Feed material of cereal grain origin - maize derived - at feed mill - Surveillance [3)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	9	0		
Feed material of oil seed or fruit origin - groundnut derived - at feed mill - Surveillance [4)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	3	0		
Feed material of oil seed or fruit origin - rape seed derived - at feed mill - Surveillance [5)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	43	0		
Feed material of oil seed or fruit origin - palm kernel derived - at feed mill - Surveillance [6)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	1	0		
Feed material of oil seed or fruit origin - soya (bean) derived - at feed mill - Surveillance [7)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	71	1		
Feed material of oil seed or fruit origin - sunflower seed derived - at feed mill - Surveillance [8)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	20	0		
Feed material of oil seed or fruit origin - linseed derived - at feed mill - Surveillance [9)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	4	0		
Feed material of oil seed or fruit origin - other oil seeds derived - at feed mill - Surveillance [10)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	3	0		
Other feed material - other seeds and fruits - at feed mill - Surveillance [11)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	1	0		
Other feed material - forages and roughages - at feed mill - Surveillance [12)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	2	0		

Table Salmonella in other feed matter

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Other feed material - other plants - at feed mill - Surveillance [13)]	CCA	Selective sampling	Official sampling	feed sample		Single	25g	5	0		

	Salmonella spp., unspecified	S. Coeln
Feed material of cereal grain origin - barley derived - at feed mill - Surveillance [1)]		
Feed material of cereal grain origin - wheat derived - at feed mill - Surveillance [2)]		
Feed material of cereal grain origin - maize derived - at feed mill - Surveillance [3)]		
Feed material of oil seed or fruit origin - groundnut derived - at feed mill - Surveillance [4)]		
Feed material of oil seed or fruit origin - rape seed derived - at feed mill - Surveillance [5)]		
Feed material of oil seed or fruit origin - palm kernel derived - at feed mill - Surveillance [6)]		
Feed material of oil seed or fruit origin - soya (bean) derived - at feed mill - Surveillance [7)]		1
Feed material of oil seed or fruit origin - sunflower seed derived - at feed mill - Surveillance [8)]		
Feed material of oil seed or fruit origin - linseed derived - at feed mill - Surveillance [9)]		

Table Salmonella in other feed matter

	Salmonella spp., unspecified	S. Coeln
Feed material of oil seed or fruit origin - other oil seeds derived - at feed mill - Surveillance [10)]		
Other feed material - other seeds and fruits - at feed mill - Surveillance [11)]		
Other feed material - forages and roughages - at feed mill - Surveillance [12)]		
Other feed material - other plants - at feed mill - Surveillance [13)]		

Comments:

[1)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

[2)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

[3)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

[4)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

[5)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

[6)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

[7)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

[8)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

[9)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

[10)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

[11)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

Table Salmonella in other feed matter

Comments:

[12)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

[13)] Analytical method : Rapid salmonella (BRD 07/11-12/05) validée selon la norme ISO 16140:2003

2.1.6 Antimicrobial resistance in Salmonella isolates

A. Antimicrobial resistance in Salmonella in cattle

Sampling strategy used in monitoring

Frequency of the sampling

--

Type of specimen taken

--

Methods of sampling (description of sampling techniques)

--

Procedures for the selection of isolates for antimicrobial testing

--

Methods used for collecting data

--

Laboratory methodology used for identification of the microbial isolates

--

Laboratory used for detection for resistance

Antimicrobials included in monitoring

--

Cut-off values used in testing

--

Preventive measures in place

--

Control program/mechanisms

The control program/strategies in place

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

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

--

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

--

Additional information

Interesting information about AMR in animals
http://www.afssa.fr/Documents/SANT-Ra-FARM2006.pdf

B. Antimicrobial resistance in Salmonella in foodstuff derived from cattle

Sampling strategy used in monitoring

Frequency of the sampling

see Antimicrobial resistance in Salmonella in poultry

Type of specimen taken

--

Methods of sampling (description of sampling techniques)

--

Procedures for the selection of isolates for antimicrobial testing

--

Methods used for collecting data

--

Laboratory methodology used for identification of the microbial isolates

--

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Cut-off values used in testing

--

Preventive measures in place

--

Control program/mechanisms

The control program/strategies in place

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

--

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

--

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

--

Additional information

--

C. Antimicrobial resistance in Salmonella in foodstuff derived from pigs

Sampling strategy used in monitoring

Frequency of the sampling

--

Type of specimen taken

--

Methods of sampling (description of sampling techniques)

--

Procedures for the selection of isolates for antimicrobial testing

--

Methods used for collecting data

--

Laboratory methodology used for identification of the microbial isolates

--

Laboratory used for detection for resistance

Antimicrobials included in monitoring

--

Cut-off values used in testing

--

Preventive measures in place

--

Control program/mechanisms

The control program/strategies in place

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

Results of the investigation

--

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

--

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

--

Additional information

--

D. Antimicrobial resistance in Salmonella in foodstuff derived from poultry

Sampling strategy used in monitoring

Frequency of the sampling

--

Type of specimen taken

Salmonella taken during the monitoring plan salmonella and campylobacter 2009, on chicken at retail level (see specific tables for details).

Methods of sampling (description of sampling techniques)

--

Procedures for the selection of isolates for antimicrobial testing

--

Methods used for collecting data

--

Laboratory methodology used for identification of the microbial isolates

Salmonella isolates are serotyped by slide agglutination with antisera.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Susceptibility to Ampicillin, Cefotaxime, Ceftazidime, Chloramphenicol, Ciprofloxacin, Colistin, Florfenicol, Gentamicin, Kanamycin, Nalidixic Acid, Streptomycin, Sulphamethoxazole, Tetracycline, Trimethoprim.

Cut-off values used in testing

The breakpoints are those recommanded by the EURL-AR

Preventive measures in place

--

Control program/mechanisms

The control program/strategies in place

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

--

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

--

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

--

Additional information

Monitoring of antimicrobial national consumption:
http://www.anmv.afssa.fr/antibioresistance/

Thematic folders: Antibiotics resistance
http://www.afssa.fr/index.htm

The salmonella network: http://www.afssapro.fr/reseausalmonella/index.htm

E. Antimicrobial resistance in Salmonella in pigs

Sampling strategy used in monitoring

Frequency of the sampling

see Antimicrobial resistance in Salmonella in poultry

Type of specimen taken

--

Methods of sampling (description of sampling techniques)

--

Procedures for the selection of isolates for antimicrobial testing

--

Methods used for collecting data

--

Laboratory methodology used for identification of the microbial isolates

--

Laboratory used for detection for resistance

Antimicrobials included in monitoring

--

Cut-off values used in testing

--

Preventive measures in place

--

Control program/mechanisms

The control program/strategies in place

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

--

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

--

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

--

Additional information

Interesting information about AMR in animals
http://www.afssa.fr/Documents/SANT-Ra-FARM2006.pdf

F. Antimicrobial resistance in Salmonella in poultry

Sampling strategy used in monitoring

Frequency of the sampling

--

Methods of sampling (description of sampling techniques)

--

Procedures for the selection of isolates for antimicrobial testing

--

Methods used for collecting data

Strains come from EU baseline studies, and national control programmes in place for Gallus breeders and laying hens.

- monitoring program 2009, salmonella in laying hens
- Official controls in broilers

The collection of strains is made in accordance decision 2007/407/EC

Laboratory methodology used for identification of the microbial isolates

Salmonella isolates are serotyped by slide agglutination with antisera.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Susceptibility to beta-lactams, aminoglycosides, quinolones, chloramphenicol, tetracyclines, and sulphamethoxazole-trimethoprim is studied using a standard disk diffusion method on Mueller-Hinton agar plates.

Cut-off values used in testing

The breakpoints are those recommanded by the EURL-AR.

Preventive measures in place

--

Control program/mechanisms

The control program/strategies in place

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

--

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

--

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

--

Additional information

NRL for AMR in salmonella:
AFSSA lerqap
Unité de cacarctérisation Epidémiologie bactérienne
23 av. du Général de Gaulle
97406 Maisons-Alfort

Specific study of AMR for salmonella of animal origins:
http://www.academie-veterinaire-defrance.org/bulletin/pdf/2008/03.pdf

For information:
A passive monitoring programme of antimicrobial resistance in Salmonella enterica, named "Salmonella network" is organised. The Salmonella network is a monocentric one designed for general monitoring of strains which are collected with relative epidemiological data from veterinary laboratories. Serotyping and antimicrobial resistance are commonly performed on isolates collected.
The datas collected and presented in this report ARE NOT the ones from this specific net. To know more about this net consult
The Salmonella network on:
http://www.afssa.fr/index.htm
and specific website:
http://www.afssapro.fr/reseausalmonella/index.htm

Interesting information about AMR in animals
http://www.afssa.fr/Documents/SANT-Ra-FARM2006.pdf

Table Antimicrobial susceptibility testing of S. Enteritidis in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Enteritidis	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	7	0									1	6													
Aminoglycosides - Streptomycin	16	7	0												1	6										
Amphenicols - Chloramphenicol	16	7	0														7									
Cephalosporins - Cefotaxime	0.5	7	0							4	3															
Fluoroquinolones - Ciprofloxacin	0.064	7	0				1		6																	
Penicillins - Ampicillin	8	7	1											3	3				1							
Quinolones - Nalidixic acid	16	7	0													7										
Tetracyclines - Tetracycline	8	7	1											1	5					1						
Trimethoprim	2	7	1										6						1							
Cephalosporins - Ceftazidim	2	7	0									7														
Sulfonamides - Sulfamethoxazol	256	7	1																2	4					1	

S. Enteritidis	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Enteritidis in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Enteritidis	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Give in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Give	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Give	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Give in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Give	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Livingstone in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Livingstone	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										1	1												
Aminoglycosides - Streptomycin	16	2	2																2							
Amphenicols - Chloramphenicol	16	2	0													1	1									
Cephalosporins - Cefotaxime	0.5	2	0								2															
Fluoroquinolones - Ciprofloxacin	0.064	2	0						1	1																
Penicillins - Ampicillin	8	2	0											1	1											
Quinolones - Nalidixic acid	16	2	0													1	1									
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0										2													
Sulfonamides - Sulfamethoxazol	256	2	0																	2						

S. Livingstone	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Livingstone in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Livingstone	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Mbandaka in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - hatcher basket liner - quantitative data [Dilution method]

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

S. Mbandaka	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																								
Isolates out of a monitoring program (yes/no)																									
Number of isolates available in the laboratory	unknown																								
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0											2											
Aminoglycosides - Streptomycin	16	2	0															2							
Amphenicols - Chloramphenicol	16	2	0														2								
Cephalosporins - Cefotaxime	0.5	2	0								2														
Fluoroquinolones - Ciprofloxacin	0.064	2	0						2																
Penicillins - Ampicillin	8	2	2																2						
Quinolones - Nalidixic acid	16	2	0													2									
Tetracyclines - Tetracycline	8	2	2																	2					
Trimethoprim	2	2	2																2						
Cephalosporins - Ceftazidim	2	2	0											2											
Sulfonamides - Sulfamethoxazol	256	2	2																					2	

S. Mbandaka	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Mbandaka in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - hatcher basket liner - quantitative data [Dilution method]

S. Mbandaka	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Abony in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Abony	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	1																1							
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Abony	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Abony in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Abony	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Indiana in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Indiana	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	5	0										5													
Aminoglycosides - Streptomycin	16	5	0														2	3								
Amphenicols - Chloramphenicol	16	5	0													2	3									
Cephalosporins - Cefotaxime	0.5	5	0							5																
Fluoroquinolones - Ciprofloxacin	0.064	5	0						5																	
Penicillins - Ampicillin	8	5	0										1	4												
Quinolones - Nalidixic acid	16	5	0													5										
Tetracyclines - Tetracycline	8	5	0											1	4											
Trimethoprim	2	5	0										5													
Cephalosporins - Ceftazidim	2	5	0									5														
Sulfonamides - Sulfamethoxazol	256	5	0																3	2						

S. Indiana	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Indiana in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Indiana	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Kentucky in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Kentucky	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																			1				

S. Kentucky	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Kentucky in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Kentucky	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Braenderup in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - dust - quantitative data [Dilution method]

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

S. Braenderup	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	0														1	1								
Amphenicols - Chloramphenicol	16	2	0													1	1									
Cephalosporins - Cefotaxime	0.5	2	0							2																
Fluoroquinolones - Ciprofloxacin	0.064	2	0				1		1																	
Penicillins - Ampicillin	8	2	0											2												
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0									2														
Sulfonamides - Sulfamethoxazol	256	2	0																	2						

S. Braenderup	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Braenderup in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - dust - quantitative data [Dilution method]

S. Braenderup	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Newport in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Newport	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	0													1	1									
Amphenicols - Chloramphenicol	16	2	0													1	1									
Cephalosporins - Cefotaxime	0.5	2	0							2																
Fluoroquinolones - Ciprofloxacin	0.064	2	0				1		1																	
Penicillins - Ampicillin	8	2	0											2												
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0									2														
Sulfonamides - Sulfamethoxazol	256	2	0																		1	1				

S. Newport	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Newport in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Newport	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Agona in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Agona	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0									1	2													
Aminoglycosides - Streptomycin	16	3	0														2	1								
Amphenicols - Chloramphenicol	16	3	0														3									
Cephalosporins - Cefotaxime	0.5	3	0							1	2															
Fluoroquinolones - Ciprofloxacin	0.064	3	0						3																	
Penicillins - Ampicillin	8	3	0											3												
Quinolones - Nalidixic acid	16	3	0													3										
Tetracyclines - Tetracycline	8	3	0												3											
Trimethoprim	2	3	0										2	1												
Cephalosporins - Ceftazidim	2	3	0										3													
Sulfonamides - Sulfamethoxazol	256	3	0																	2	1					

S. Agona	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Agona in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Agona	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Muenster in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Muenster	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																			1				

S. Muenster	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Muenster in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Muenster	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Oranienburg in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

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

S. Oranienburg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0				1																			
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																		1					

S. Oranienburg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Oranienburg in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

S. Oranienburg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - hatcher basket liner - quantitative data [Dilution method]

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

S. Senftenberg	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	0														2									
Amphenicols - Chloramphenicol	16	2	0													1	1									
Cephalosporins - Cefotaxime	0.5	2	0								2															
Fluoroquinolones - Ciprofloxacin	0.064	2	0				1		1																	
Penicillins - Ampicillin	8	2	0											1	1											
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0									1	1													
Sulfonamides - Sulfamethoxazol	256	2	0																2							

S. Senftenberg	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - hatcher basket liner - quantitative data [Dilution method]

S. Senftenberg	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Senftenberg in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - hatcher basket liner - quantitative data [Dilution method]

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

S. Senftenberg	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0									3														
Aminoglycosides - Streptomycin	16	3	0														3									
Amphenicols - Chloramphenicol	16	3	0														3									
Cephalosporins - Cefotaxime	0.5	3	0								3															
Fluoroquinolones - Ciprofloxacin	0.064	3	2						1			2														
Penicillins - Ampicillin	8	3	0											3												
Quinolones - Nalidixic acid	16	3	2													1				2						
Tetracyclines - Tetracycline	8	3	0												3											
Trimethoprim	2	3	0										3													
Cephalosporins - Ceftazidim	2	3	0									3														
Sulfonamides - Sulfamethoxazol	256	3	0															1	2							

S. Senftenberg	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Senftenberg in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - hatcher basket liner - quantitative data [Dilution method]

S. Senftenberg	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Derby in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Derby	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										1	1												
Aminoglycosides - Streptomycin	16	2	2																		2					
Amphenicols - Chloramphenicol	16	2	0														2									
Cephalosporins - Cefotaxime	0.5	2	0								2															
Fluoroquinolones - Ciprofloxacin	0.064	2	0				1		1																	
Penicillins - Ampicillin	8	2	0											2												
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	2																	2						
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0										2													
Sulfonamides - Sulfamethoxazol	256	2	2																						2	

S. Derby	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Derby in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Derby	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Rissen in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

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

S. Rissen	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0									1														
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0												1											
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																			1				

S. Rissen	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Rissen in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

S. Rissen	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Schwarzengrund in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Schwarzengrund	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	0														1	1								
Amphenicols - Chloramphenicol	16	2	0														2									
Cephalosporins - Cefotaxime	0.5	2	0							2																
Fluoroquinolones - Ciprofloxacin	0.064	2	0				2																			
Penicillins - Ampicillin	8	2	0											1	1											
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										1	1												
Cephalosporins - Ceftazidim	2	2	0									2														
Sulfonamides - Sulfamethoxazol	256	2	0																	2						

S. Schwarzengrund	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Schwarzengrund in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Schwarzengrund	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Veneziana in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Veneziana	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0													1										
Amphenicols - Chloramphenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0											1												
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																1							

S. Veneziana	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Veneziana in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Veneziana	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Weltevreden in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Weltevreden	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0													1										
Amphenicols - Chloramphenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Weltevreden	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Weltevreden in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Weltevreden	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Montevideo in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Montevideo	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	16	0										9	6	1											
Aminoglycosides - Streptomycin	16	16	1														2	13			1					
Amphenicols - Chloramphenicol	16	16	0													3	13									
Cephalosporins - Cefotaxime	0.5	16	0							14	2															
Fluoroquinolones - Ciprofloxacin	0.064	16	0				3		13																	
Penicillins - Ampicillin	8	16	3											12	1				3							
Quinolones - Nalidixic acid	16	16	0													16										
Tetracyclines - Tetracycline	8	16	1												15					1						
Trimethoprim	2	16	3										13						3							
Cephalosporins - Ceftazidim	2	16	0									16														
Sulfonamides - Sulfamethoxazol	256	16	3																6	5	1	1			3	

S. Montevideo	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Montevideo in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Montevideo	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Napoli in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Napoli	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0										3													
Aminoglycosides - Streptomycin	16	3	0														3									
Amphenicols - Chloramphenicol	16	3	0													1	2									
Cephalosporins - Cefotaxime	0.5	3	0							1	2															
Fluoroquinolones - Ciprofloxacin	0.064	3	0						3																	
Penicillins - Ampicillin	8	3	0											1	2											
Quinolones - Nalidixic acid	16	3	0													3										
Tetracyclines - Tetracycline	8	3	0												3											
Trimethoprim	2	3	0										3													
Cephalosporins - Ceftazidim	2	3	0									2	1													
Sulfonamides - Sulfamethoxazol	256	3	0																1	2						

S. Napoli	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Napoli in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Napoli	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Javiana in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - dust - quantitative data [Dilution method]

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

S. Javiana	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0												1											
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																		1					

S. Javiana	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Javiana in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - dust - quantitative data [Dilution method]

S. Javiana	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

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

S. Typhimurium	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0										3													
Aminoglycosides - Streptomycin	16	3	0															3								
Amphenicols - Chloramphenicol	16	3	0													2	1									
Cephalosporins - Cefotaxime	0.5	3	0							3																
Fluoroquinolones - Ciprofloxacin	0.064	3	0						3																	
Penicillins - Ampicillin	8	3	0											2	1											
Quinolones - Nalidixic acid	16	3	0													3										
Tetracyclines - Tetracycline	8	3	0											1	2											
Trimethoprim	2	3	0										3													
Cephalosporins - Ceftazidim	2	3	0									2	1													
Sulfonamides - Sulfamethoxazol	256	3	0														1	1			1					

S. Typhimurium	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Typhimurium in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

S. Typhimurium	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Enteritidis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	34	0									2	29	2	1											
Aminoglycosides - Streptomycin	16	34	0													27	7									
Amphenicols - Chloramphenicol	16	34	0												2	3	29									
Cephalosporins - Cefotaxime	0.5	34	0							24	9	1														
Fluoroquinolones - Ciprofloxacin	0.064	34	0				5		29																	
Penicillins - Ampicillin	8	34	0										1	16	17											
Quinolones - Nalidixic acid	16	34	0													34										
Tetracyclines - Tetracycline	8	34	0											8	26											
Trimethoprim	2	34	0										34													
Cephalosporins - Ceftazidim	2	34	0									31	3													
Sulfonamides - Sulfamethoxazol	256	34	0													1	1	4	5	18	5					

S. Enteritidis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Enteritidis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Give in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Give	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	0														2									
Amphenicols - Chloramphenicol	16	2	0														2									
Cephalosporins - Cefotaxime	0.5	2	0							2																
Fluoroquinolones - Ciprofloxacin	0.064	2	0						2																	
Penicillins - Ampicillin	8	2	0											2												
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0									2														
Sulfonamides - Sulfamethoxazol	256	2	0																2							

S. Give	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Give in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Give	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Livingstone in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Livingstone	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0											1												
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Livingstone	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Livingstone in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Livingstone	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Mbandaka in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Mbandaka	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	19	0										10	8	1											
Aminoglycosides - Streptomycin	16	19	2														2	15	2							
Amphenicols - Chloramphenicol	16	19	0													3	16									
Cephalosporins - Cefotaxime	0.5	19	0							1	18															
Fluoroquinolones - Ciprofloxacin	0.064	19	0				4		15																	
Penicillins - Ampicillin	8	19	16											2	1				16							
Quinolones - Nalidixic acid	16	19	0													19										
Tetracyclines - Tetracycline	8	19	16											1	2					16						
Trimethoprim	2	19	16										3						16							
Cephalosporins - Ceftazidim	2	19	0										17	2												
Sulfonamides - Sulfamethoxazol	256	19	16																	1	2				16	

S. Mbandaka	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Mbandaka in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Mbandaka	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Mbandaka in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Mbandaka	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	8	0										4	3	1											
Aminoglycosides - Streptomycin	16	8	1														2	5			1					
Amphenicols - Chloramphenicol	16	8	0													2	6									
Cephalosporins - Cefotaxime	0.5	8	0							1	6		1													
Fluoroquinolones - Ciprofloxacin	0.064	8	0				6		2																	
Penicillins - Ampicillin	8	8	1											6		1			1							
Quinolones - Nalidixic acid	16	8	0													7	1									
Tetracyclines - Tetracycline	8	8	1												7					1						
Trimethoprim	2	8	1										6	1					1							
Cephalosporins - Ceftazidim	2	8	0										7	1												
Sulfonamides - Sulfamethoxazol	256	8	3																	2	3		1		2	

S. Mbandaka	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Mbandaka in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Mbandaka	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Idikan in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Idikan	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	0														1	1								
Amphenicols - Chloramphenicol	16	2	0														2									
Cephalosporins - Cefotaxime	0.5	2	0								2															
Fluoroquinolones - Ciprofloxacin	0.064	2	0						2																	
Penicillins - Ampicillin	8	2	0											2												
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										1	1												
Cephalosporins - Ceftazidim	2	2	0									1	1													
Sulfonamides - Sulfamethoxazol	256	2	0																	2						

S. Idikan	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Idikan in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Idikan	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Jerusalem in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Jerusalem	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0															1								
Amphenicols - Chloramphenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																1							

S. Jerusalem	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Jerusalem in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Jerusalem	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Braenderup in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Braenderup	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	7	0										6		1											
Aminoglycosides - Streptomycin	16	7	0														3	4								
Amphenicols - Chloramphenicol	16	7	0													4	3									
Cephalosporins - Cefotaxime	0.5	7	0							6	1															
Fluoroquinolones - Ciprofloxacin	0.064	7	0						7																	
Penicillins - Ampicillin	8	7	0											6	1											
Quinolones - Nalidixic acid	16	7	0													7										
Tetracyclines - Tetracycline	8	7	0											1	6											
Trimethoprim	2	7	0										7													
Cephalosporins - Ceftazidim	2	7	0									6	1													
Sulfonamides - Sulfamethoxazol	256	7	0																	6	1					

S. Braenderup	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Braenderup in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Braenderup	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Cerro in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Cerro	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	1																1							
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	1																1							
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	1																						1	

S. Cerro	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Cerro in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Cerro	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Agona in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Agona	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	6	0										5	1												
Aminoglycosides - Streptomycin	16	6	0														4	2								
Amphenicols - Chloramphenicol	16	6	0														6									
Cephalosporins - Cefotaxime	0.5	6	0								6															
Fluoroquinolones - Ciprofloxacin	0.064	6	0						6																	
Penicillins - Ampicillin	8	6	0											6												
Quinolones - Nalidixic acid	16	6	0													6										
Tetracyclines - Tetracycline	8	6	0												6											
Trimethoprim	2	6	0										6													
Cephalosporins - Ceftazidim	2	6	0									1	5													
Sulfonamides - Sulfamethoxazol	256	6	0																	1	5					

S. Agona	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Agona in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Agona	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Lille in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Lille	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0									1	1													
Aminoglycosides - Streptomycin	16	2	0														2									
Amphenicols - Chloramphenicol	16	2	0													1	1									
Cephalosporins - Cefotaxime	0.5	2	0							1	1															
Fluoroquinolones - Ciprofloxacin	0.064	2	0				1		1																	
Penicillins - Ampicillin	8	2	0											2												
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0										2													
Sulfonamides - Sulfamethoxazol	256	2	0															1	1							

S. Lille	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Lille in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Lille	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of Other serovars in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

Other serovars	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0													1										
Amphenicols - Chloramphenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																1							

Other serovars	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of Other serovars in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

Other serovars	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - fabric swab - quantitative data [Dilution method]

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

S. Senftenberg	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	1																		1					
Amphenicols - Chloramphenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	1										1													
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	1																	1						
Tetracyclines - Tetracycline	8	1	1																	1						
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Senftenberg	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - fabric swab - quantitative data [Dilution method]

S. Senftenberg	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Senftenberg in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Senftenberg	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	30	0									10	20													
Aminoglycosides - Streptomycin	16	30	1												1	1	20	7	1							
Amphenicols - Chloramphenicol	16	30	0													4	23	3								
Cephalosporins - Cefotaxime	0.5	30	0							9	19	2														
Fluoroquinolones - Ciprofloxacin	0.064	30	24				4		2			18	6													
Penicillins - Ampicillin	8	30	1											26	3				1							
Quinolones - Nalidixic acid	16	30	24													6				24						
Tetracyclines - Tetracycline	8	30	1											3	24	2				1						
Trimethoprim	2	29	0										29													
Cephalosporins - Ceftazidim	2	30	0									19	10	1												
Sulfonamides - Sulfamethoxazol	256	30	2															1	9	13	5		1		1	

S. Senftenberg	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Senftenberg in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Senftenberg	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Coeln in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Coeln	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																		1					

S. Coeln	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Coeln in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Coeln	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Regent in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Regent	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0									1														
Fluoroquinolones - Ciprofloxacin	0.064	1	1									1														
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	1																	1						
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Regent	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Regent in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Regent	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Saintpaul in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Saintpaul	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	1																		1					
Amphenicols - Chloramphenicol	16	1	1																	1						
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	1																1							
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	1																	1						
Trimethoprim	2	1	1																1							
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	1																						1	

S. Saintpaul	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Saintpaul in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Saintpaul	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Veneziana in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Veneziana	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0									1	2													
Aminoglycosides - Streptomycin	16	3	0													2	1									
Amphenicols - Chloramphenicol	16	3	0													3										
Cephalosporins - Cefotaxime	0.5	3	0							2	1															
Fluoroquinolones - Ciprofloxacin	0.064	3	0				2		1																	
Penicillins - Ampicillin	8	3	0											3												
Quinolones - Nalidixic acid	16	3	0													3										
Tetracyclines - Tetracycline	8	3	0											3												
Trimethoprim	2	3	0										3													
Cephalosporins - Ceftazidim	2	3	0									3														
Sulfonamides - Sulfamethoxazol	256	3	0														1		2							

S. Veneziana	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Veneziana in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Veneziana	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Virchow in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Virchow	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0										3													
Aminoglycosides - Streptomycin	16	3	0														1	2								
Amphenicols - Chloramphenicol	16	3	0														2	1								
Cephalosporins - Cefotaxime	0.5	3	0							2			1													
Fluoroquinolones - Ciprofloxacin	0.064	3	0						3																	
Penicillins - Ampicillin	8	3	0											2	1											
Quinolones - Nalidixic acid	16	3	0													3										
Tetracyclines - Tetracycline	8	3	0												3											
Trimethoprim	2	3	0										3													
Cephalosporins - Ceftazidim	2	3	0									2		1												
Sulfonamides - Sulfamethoxazol	256	3	0																1	1	1					

S. Virchow	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Virchow in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Virchow	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Meleagridis in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Meleagridis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Meleagridis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Meleagridis in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Meleagridis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Napoli in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Napoli	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	6	0										6													
Aminoglycosides - Streptomycin	16	6	0														5	1								
Amphenicols - Chloramphenicol	16	6	0												1	2	3									
Cephalosporins - Cefotaxime	0.5	6	0							2	3		1													
Fluoroquinolones - Ciprofloxacin	0.064	6	0						6																	
Penicillins - Ampicillin	8	6	0											1	4	1										
Quinolones - Nalidixic acid	16	6	0													6										
Tetracyclines - Tetracycline	8	6	0											1	5											
Trimethoprim	2	6	0										6													
Cephalosporins - Ceftazidim	2	6	0									3	2		1											
Sulfonamides - Sulfamethoxazol	256	6	0																3	3						

S. Napoli	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Napoli in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Napoli	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Stourbridge in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - dust - quantitative data [Dilution method]

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

S. Stourbridge	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																		1					

S. Stourbridge	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Stourbridge in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - dust - quantitative data [Dilution method]

S. Stourbridge	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Typhimurium	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	5	0										3	1	1											
Aminoglycosides - Streptomycin	16	5	2														1	2			2					
Amphenicols - Chloramphenicol	16	5	2													1	2			2						
Cephalosporins - Cefotaxime	0.5	5	0							3	2															
Fluoroquinolones - Ciprofloxacin	0.064	5	0						5																	
Penicillins - Ampicillin	8	5	3											2					3							
Quinolones - Nalidixic acid	16	5	0													4	1									
Tetracyclines - Tetracycline	8	5	3												2				1	2						
Trimethoprim	2	5	1										4						1							
Cephalosporins - Ceftazidim	2	5	0									3	2													
Sulfonamides - Sulfamethoxazol	256	5	3																	2					3	

S. Typhimurium	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Typhimurium in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Typhimurium	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

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

S. Enteritidis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	5	0										5													
Aminoglycosides - Streptomycin	16	5	0													5										
Amphenicols - Chloramphenicol	16	5	0													3	2									
Cephalosporins - Cefotaxime	0.5	5	0							3	2															
Fluoroquinolones - Ciprofloxacin	0.064	5	0				1		4																	
Penicillins - Ampicillin	8	5	0											3	1	1										
Quinolones - Nalidixic acid	16	5	0													4	1									
Tetracyclines - Tetracycline	8	5	0											5												
Trimethoprim	2	5	0										5													
Cephalosporins - Ceftazidim	2	5	0									4		1												
Sulfonamides - Sulfamethoxazol	256	5	0																1	4						

S. Enteritidis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

S. Enteritidis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Falkensee in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Falkensee	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																1							

S. Falkensee	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Falkensee in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Falkensee	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Livingstone in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

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

S. Livingstone	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																								
Isolates out of a monitoring program (yes/no)																									
Number of isolates available in the laboratory	unknown																								
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0										2	1											
Aminoglycosides - Streptomycin	16	3	1															2	1						
Amphenicols - Chloramphenicol	16	3	0													1	2								
Cephalosporins - Cefotaxime	0.5	3	0							1	2														
Fluoroquinolones - Ciprofloxacin	0.064	3	0				1		2																
Penicillins - Ampicillin	8	3	1											1	1				1						
Quinolones - Nalidixic acid	16	3	0													3									
Tetracyclines - Tetracycline	8	3	1												2					1					
Trimethoprim	2	3	1										2						1						
Cephalosporins - Ceftazidim	2	3	0									1	2												
Sulfonamides - Sulfamethoxazol	256	3	1																	2				1	

S. Livingstone	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Livingstone in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

S. Livingstone	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Manhattan in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Manhattan	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	1																1							
Amphenicols - Chloramphenicol	16	1	0															1								
Cephalosporins - Cefotaxime	0.5	1	0									1														
Fluoroquinolones - Ciprofloxacin	0.064	1	0							1																
Penicillins - Ampicillin	8	1	0												1											
Quinolones - Nalidixic acid	16	1	0														1									
Tetracyclines - Tetracycline	8	1	0													1										
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																		1					

S. Manhattan	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Manhattan in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Manhattan	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Mbandaka in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Mbandaka	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	10	0										8	2												
Aminoglycosides - Streptomycin	16	10	0														3	7								
Amphenicols - Chloramphenicol	16	10	0													2	8									
Cephalosporins - Cefotaxime	0.5	10	0							3	6	1														
Fluoroquinolones - Ciprofloxacin	0.064	10	0				7		3																	
Penicillins - Ampicillin	8	10	0											9	1											
Quinolones - Nalidixic acid	16	10	0													10										
Tetracyclines - Tetracycline	8	10	3											1	6					3						
Trimethoprim	2	10	0										10													
Cephalosporins - Ceftazidim	2	10	0										10													
Sulfonamides - Sulfamethoxazol	256	10	0																1	4	4	1				

S. Mbandaka	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Mbandaka in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Mbandaka	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Anatum in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Anatum	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0										3													
Aminoglycosides - Streptomycin	16	3	1														2		1							
Amphenicols - Chloramphenicol	16	3	0														3									
Cephalosporins - Cefotaxime	0.5	3	0								2	1														
Fluoroquinolones - Ciprofloxacin	0.064	3	0						3																	
Penicillins - Ampicillin	8	3	0											3												
Quinolones - Nalidixic acid	16	3	0													3										
Tetracyclines - Tetracycline	8	3	0												3											
Trimethoprim	2	3	0										3													
Cephalosporins - Ceftazidim	2	3	0									1	2													
Sulfonamides - Sulfamethoxazol	256	3	3																				2		1	

S. Anatum	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Anatum in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Anatum	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Indiana in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Indiana	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	6	0										6													
Aminoglycosides - Streptomycin	16	6	4														1	1	1		3					
Amphenicols - Chloramphenicol	16	6	0													1	5									
Cephalosporins - Cefotaxime	0.5	6	0							3	2	1														
Fluoroquinolones - Ciprofloxacin	0.064	6	0				1		5																	
Penicillins - Ampicillin	8	6	3										1	1	1				3							
Quinolones - Nalidixic acid	16	6	0													6										
Tetracyclines - Tetracycline	8	6	3												3					3						
Trimethoprim	2	6	3										3						3							
Cephalosporins - Ceftazidim	2	6	0									3	2	1												
Sulfonamides - Sulfamethoxazol	256	6	3																1	1	1				3	

S. Indiana	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Indiana in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Indiana	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Braenderup in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

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

S. Braenderup	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0										3													
Aminoglycosides - Streptomycin	16	3	0														1	2								
Amphenicols - Chloramphenicol	16	3	0													1	2									
Cephalosporins - Cefotaxime	0.5	3	0							3																
Fluoroquinolones - Ciprofloxacin	0.064	3	0						3																	
Penicillins - Ampicillin	8	3	0											2	1											
Quinolones - Nalidixic acid	16	3	0													3										
Tetracyclines - Tetracycline	8	3	2												1					2						
Trimethoprim	2	3	0										3													
Cephalosporins - Ceftazidim	2	3	0									3														
Sulfonamides - Sulfamethoxazol	256	3	0																	3						

S. Braenderup	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Braenderup in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

S. Braenderup	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Bredeney in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Bredeney	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	10	0									1	9													
Aminoglycosides - Streptomycin	16	10	7														1	2			7					
Amphenicols - Chloramphenicol	16	10	3													2	5			3						
Cephalosporins - Cefotaxime	0.5	10	0							9	1															
Fluoroquinolones - Ciprofloxacin	0.064	10	0				6		4																	
Penicillins - Ampicillin	8	10	9											1					9							
Quinolones - Nalidixic acid	16	10	0													10										
Tetracyclines - Tetracycline	8	10	10																	10						
Trimethoprim	2	10	9										1						9							
Cephalosporins - Ceftazidim	2	10	0									10														
Sulfonamides - Sulfamethoxazol	256	10	9																1						9	

S. Bredeney	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Bredeney in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Bredeney	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Newport in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Newport	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	21	0									1	19	1												
Aminoglycosides - Streptomycin	16	21	0													1	15	5								
Amphenicols - Chloramphenicol	16	21	0													1	20									
Cephalosporins - Cefotaxime	0.5	21	0							10	10		1													
Fluoroquinolones - Ciprofloxacin	0.064	21	1				1		19			1														
Penicillins - Ampicillin	8	21	0											15	5	1										
Quinolones - Nalidixic acid	16	21	1													18	2			1						
Tetracyclines - Tetracycline	8	21	0												21											
Trimethoprim	2	21	0										21													
Cephalosporins - Ceftazidim	2	21	0									16	4	1												
Sulfonamides - Sulfamethoxazol	256	21	0																2	12	5	2				

S. Newport	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Newport in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Newport	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Kottbus in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Kottbus	Turkeys - fattening flocks - at farm - Control and eradication programmes																								
Isolates out of a monitoring program (yes/no)																									
Number of isolates available in the laboratory	unknown																								
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	4	0									1	1	2											
Aminoglycosides - Streptomycin	16	4	0													1	2	1							
Amphenicols - Chloramphenicol	16	4	0										1			2	1								
Cephalosporins - Cefotaxime	0.5	4	0							2	1	1													
Fluoroquinolones - Ciprofloxacin	0.064	4	2						2			1	1												
Penicillins - Ampicillin	8	4	2											1	1				2						
Quinolones - Nalidixic acid	16	4	2													2				2					
Tetracyclines - Tetracycline	8	4	2												2					2					
Trimethoprim	2	4	2										2						2						
Cephalosporins - Ceftazidim	2	4	0									2	2												
Sulfonamides - Sulfamethoxazol	256	4	2															1		1				2	

S. Kottbus	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Kottbus in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Kottbus	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. 1,4,[5],12:i:- in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. 1,4,[5],12:i:-	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	2																1		1					
Amphenicols - Chloramphenicol	16	2	0													1	1									
Cephalosporins - Cefotaxime	0.5	2	0							2																
Fluoroquinolones - Ciprofloxacin	0.064	2	0						2																	
Penicillins - Ampicillin	8	2	1											1					1							
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	2																	2						
Trimethoprim	2	2	1										1						1							
Cephalosporins - Ceftazidim	2	2	0									2														
Sulfonamides - Sulfamethoxazol	256	2	2																						2	

S. 1,4,[5],12:i:-	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. 1,4,[5],12:i:- in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. 1,4,[5],12:i:-	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Senftenberg	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	21	0									6	13	2												
Aminoglycosides - Streptomycin	16	21	2												1	2	13	3	2							
Amphenicols - Chloramphenicol	16	21	1													4	11	5	1							
Cephalosporins - Cefotaxime	0.5	21	0							1	15	4	1													
Fluoroquinolones - Ciprofloxacin	0.064	21	2				2		12	5			2													
Penicillins - Ampicillin	8	21	1											8	9	3		1								
Quinolones - Nalidixic acid	16	21	2													13	5	1		2						
Tetracyclines - Tetracycline	8	21	0												17	4										
Trimethoprim	2	21	0										16	5												
Cephalosporins - Ceftazidim	2	21	0									11	10													
Sulfonamides - Sulfamethoxazol	256	21	0															4	8	1	8					

S. Senftenberg	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Senftenberg	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - dust - quantitative data [Dilution method]

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

S. Senftenberg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	1																1							
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0												1											
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																		1					

S. Senftenberg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - dust - quantitative data [Dilution method]

S. Senftenberg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Coeln in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Coeln	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0										3													
Aminoglycosides - Streptomycin	16	3	0														2	1								
Amphenicols - Chloramphenicol	16	3	0														3									
Cephalosporins - Cefotaxime	0.5	3	0								3															
Fluoroquinolones - Ciprofloxacin	0.064	3	0						3																	
Penicillins - Ampicillin	8	3	0											1	2											
Quinolones - Nalidixic acid	16	3	0													3										
Tetracyclines - Tetracycline	8	3	0												3											
Trimethoprim	2	3	0										3													
Cephalosporins - Ceftazidim	2	3	0									3														
Sulfonamides - Sulfamethoxazol	256	3	0																		3					

S. Coeln	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Coeln in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Coeln	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Regent in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Regent	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	4	0										4													
Aminoglycosides - Streptomycin	16	4	1														1	2	1							
Amphenicols - Chloramphenicol	16	4	0														4									
Cephalosporins - Cefotaxime	0.5	4	0							1	3															
Fluoroquinolones - Ciprofloxacin	0.064	4	3						1			3														
Penicillins - Ampicillin	8	4	1											1	2				1							
Quinolones - Nalidixic acid	16	4	3													1				3						
Tetracyclines - Tetracycline	8	4	1												3					1						
Trimethoprim	2	4	0										4													
Cephalosporins - Ceftazidim	2	4	0									2	2													
Sulfonamides - Sulfamethoxazol	256	4	1																1	1	1				1	

S. Regent	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Regent in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Regent	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Saintpaul in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Saintpaul	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	3	0										2	1												
Aminoglycosides - Streptomycin	16	3	2														1				2					
Amphenicols - Chloramphenicol	16	3	1													1	1			1						
Cephalosporins - Cefotaxime	0.5	3	0							2	1															
Fluoroquinolones - Ciprofloxacin	0.064	3	0						3																	
Penicillins - Ampicillin	8	3	3																3							
Quinolones - Nalidixic acid	16	3	0													3										
Tetracyclines - Tetracycline	8	3	2												1					2						
Trimethoprim	2	3	3																3							
Cephalosporins - Ceftazidim	2	3	0									2	1													
Sulfonamides - Sulfamethoxazol	256	3	3																						3	

S. Saintpaul	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Saintpaul in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Saintpaul	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Tennessee in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Tennessee	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0															1								
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	1									1														
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	1																	1						
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																		1					

S. Tennessee	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Tennessee in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Tennessee	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Virchow in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

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

S. Virchow	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	0														1	1								
Amphenicols - Chloramphenicol	16	2	0														2									
Cephalosporins - Cefotaxime	0.5	2	0							1	1															
Fluoroquinolones - Ciprofloxacin	0.064	2	0						2																	
Penicillins - Ampicillin	8	2	1											1					1							
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	1												1					1						
Trimethoprim	2	2	1										1						1							
Cephalosporins - Ceftazidim	2	2	0									1	1													
Sulfonamides - Sulfamethoxazol	256	2	0																	2						

S. Virchow	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Virchow in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

S. Virchow	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Infantis in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Infantis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	0															2								
Amphenicols - Chloramphenicol	16	2	0														2									
Cephalosporins - Cefotaxime	0.5	2	0								1	1														
Fluoroquinolones - Ciprofloxacin	0.064	2	0						2																	
Penicillins - Ampicillin	8	2	0											1	1											
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0										2													
Sulfonamides - Sulfamethoxazol	256	2	0																	1	1					

S. Infantis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Infantis in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Infantis	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Montevideo in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Montevideo	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	4	0									2	1	1												
Aminoglycosides - Streptomycin	16	4	0													1	1	2								
Amphenicols - Chloramphenicol	16	4	0													1	3									
Cephalosporins - Cefotaxime	0.5	4	0							3	1															
Fluoroquinolones - Ciprofloxacin	0.064	4	0				1		3																	
Penicillins - Ampicillin	8	4	0											2	2											
Quinolones - Nalidixic acid	16	4	0													4										
Tetracyclines - Tetracycline	8	4	0											1	3											
Trimethoprim	2	4	0										4													
Cephalosporins - Ceftazidim	2	4	0									2	2													
Sulfonamides - Sulfamethoxazol	256	4	0															1		2		1				

S. Montevideo	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Montevideo in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Montevideo	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Stourbridge in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Stourbridge	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0											1												
Aminoglycosides - Streptomycin	16	1	0															1								
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0									1														
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0												1											
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0											1												
Sulfonamides - Sulfamethoxazol	256	1	0																		1					

S. Stourbridge	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Stourbridge in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Stourbridge	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Ohio in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Ohio	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0											1												
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0												1											
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0												1											
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0											1												
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Ohio	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Ohio in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Ohio	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Typhimurium	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	8	0										8													
Aminoglycosides - Streptomycin	16	8	8																	4	4					
Amphenicols - Chloramphenicol	16	8	6														2			6						
Cephalosporins - Cefotaxime	0.5	8	0							6	2															
Fluoroquinolones - Ciprofloxacin	0.064	8	0				1		7																	
Penicillins - Ampicillin	8	8	6											2					6							
Quinolones - Nalidixic acid	16	8	0													7	1									
Tetracyclines - Tetracycline	8	8	6												2				4	2						
Trimethoprim	2	8	1										7						1							
Cephalosporins - Ceftazidim	2	8	0									6	2													
Sulfonamides - Sulfamethoxazol	256	8	8																						8	

S. Typhimurium	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Typhimurium in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Typhimurium	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Enteritidis	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										1	1												
Aminoglycosides - Streptomycin	16	2	0													2										
Amphenicols - Chloramphenicol	16	2	0													1	1									
Cephalosporins - Cefotaxime	0.5	2	0							1		1														
Fluoroquinolones - Ciprofloxacin	0.064	2	1						1			1														
Penicillins - Ampicillin	8	2	0											1	1											
Quinolones - Nalidixic acid	16	2	1													1				1						
Tetracyclines - Tetracycline	8	2	0											1	1											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0									2														
Sulfonamides - Sulfamethoxazol	256	2	0																	2						

S. Enteritidis	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Enteritidis	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Enteritidis in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - fabric swab - quantitative data [Dilution method]

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

S. Enteritidis	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0													1										
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0												1											
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Enteritidis	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Enteritidis in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - fabric swab - quantitative data [Dilution method]

S. Enteritidis	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Livingstone in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Livingstone	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	21	0									2	10	8	1											
Aminoglycosides - Streptomycin	16	21	5														4	12	4	1						
Amphenicols - Chloramphenicol	16	21	0													3	18									
Cephalosporins - Cefotaxime	0.5	21	0								18	2	1													
Fluoroquinolones - Ciprofloxacin	0.064	21	0				1		20																	
Penicillins - Ampicillin	8	21	1											16	4				1							
Quinolones - Nalidixic acid	16	21	0													20	1									
Tetracyclines - Tetracycline	8	21	1												20					1						
Trimethoprim	2	21	1										20						1							
Cephalosporins - Ceftazidim	2	21	0										19	2												
Sulfonamides - Sulfamethoxazol	256	21	3																1	14	3				3	

S. Livingstone	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Livingstone in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Livingstone	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. London in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. London	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	1																	1						
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																		1					

S. London	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. London in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. London	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Mbandaka in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

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

S. Mbandaka	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	5	0										2	3												
Aminoglycosides - Streptomycin	16	5	0														1	4								
Amphenicols - Chloramphenicol	16	5	0														5									
Cephalosporins - Cefotaxime	0.5	5	0								4	1														
Fluoroquinolones - Ciprofloxacin	0.064	5	0				1		4																	
Penicillins - Ampicillin	8	5	0											4	1											
Quinolones - Nalidixic acid	16	5	0													5										
Tetracyclines - Tetracycline	8	5	4												1					4						
Trimethoprim	2	5	0										5													
Cephalosporins - Ceftazidim	2	5	0										4	1												
Sulfonamides - Sulfamethoxazol	256	5	0																	4	1					

S. Mbandaka	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Mbandaka in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

S. Mbandaka	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Anatum in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Anatum	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	32	0									4	25	3												
Aminoglycosides - Streptomycin	16	32	1														12	19	1							
Amphenicols - Chloramphenicol	16	32	0													1	31									
Cephalosporins - Cefotaxime	0.5	32	0							4	27	1														
Fluoroquinolones - Ciprofloxacin	0.064	32	0				1		31																	
Penicillins - Ampicillin	8	32	3											27	2				3							
Quinolones - Nalidixic acid	16	32	0													31		1								
Tetracyclines - Tetracycline	8	32	1												31					1						
Trimethoprim	2	31	3										28						3							
Cephalosporins - Ceftazidim	2	32	0									4	28													
Sulfonamides - Sulfamethoxazol	256	32	20																	4	2	6	13		7	

S. Anatum	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Anatum in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Anatum	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Indiana in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Indiana	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0															1								
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Indiana	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Indiana in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Indiana	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Bovismorbificans in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Bovismorbificans	Turkeys - fattening flocks - at farm - Control and eradication programmes																								
Isolates out of a monitoring program (yes/no)																									
Number of isolates available in the laboratory	unknown																								
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2												
Aminoglycosides - Streptomycin	16	2	0															2							
Amphenicols - Chloramphenicol	16	2	0														1	1							
Cephalosporins - Cefotaxime	0.5	2	1								1					1									
Fluoroquinolones - Ciprofloxacin	0.064	2	0							2															
Penicillins - Ampicillin	8	2	1													1			1						
Quinolones - Nalidixic acid	16	2	0														2								
Tetracyclines - Tetracycline	8	2	1													1				1					
Trimethoprim	2	2	0										2												
Cephalosporins - Ceftazidim	2	2	1									1				1									
Sulfonamides - Sulfamethoxazol	256	2	1																		1			1	

S. Bovismorbificans	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Bovismorbificans in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Bovismorbificans	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Braenderup in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Braenderup	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	1																1							
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0										1													
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	1																1							
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	1																	1						
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																		1					

S. Braenderup	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Braenderup in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Braenderup	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Newport in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - dust - quantitative data [Dilution method]

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

S. Newport	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0				1																			
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0											1												
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Newport	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Newport in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - dust - quantitative data [Dilution method]

S. Newport	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Agona in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Agona	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	16	0									3	12	1												
Aminoglycosides - Streptomycin	16	16	7														4	5	6		1					
Amphenicols - Chloramphenicol	16	16	3													1	8	4		3						
Cephalosporins - Cefotaxime	0.5	16	0							1	11	4														
Fluoroquinolones - Ciprofloxacin	0.064	16	0				3		9	4																
Penicillins - Ampicillin	8	16	4											7	3	2			4							
Quinolones - Nalidixic acid	16	16	0													12	4									
Tetracyclines - Tetracycline	8	16	7											1	4	4				7						
Trimethoprim	2	16	4										12						4							
Cephalosporins - Ceftazidim	2	16	0									2	13	1												
Sulfonamides - Sulfamethoxazol	256	16	8															1		4	3				8	

S. Agona	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Agona in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Agona	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Muenster in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

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

S. Muenster	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0														1									
Cephalosporins - Cefotaxime	0.5	1	0								1															
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0										1													
Sulfonamides - Sulfamethoxazol	256	1	0																		1					

S. Muenster	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Muenster in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - animal sample - faeces - quantitative data [Dilution method]

S. Muenster	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Oranienburg in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Oranienburg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	0															2								
Amphenicols - Chloramphenicol	16	2	0														2									
Cephalosporins - Cefotaxime	0.5	2	0								2															
Fluoroquinolones - Ciprofloxacin	0.064	2	0				2																			
Penicillins - Ampicillin	8	2	0											2												
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0										2													
Sulfonamides - Sulfamethoxazol	256	2	0																	2						

S. Oranienburg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Oranienburg in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Oranienburg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Senftenberg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	10	0									2	8													
Aminoglycosides - Streptomycin	16	10	1														7	2			1					
Amphenicols - Chloramphenicol	16	10	0													5	4	1								
Cephalosporins - Cefotaxime	0.5	10	0								9		1													
Fluoroquinolones - Ciprofloxacin	0.064	10	0				2		7	1																
Penicillins - Ampicillin	8	10	0											6	3	1										
Quinolones - Nalidixic acid	16	10	0													9		1								
Tetracyclines - Tetracycline	8	10	1												8	1				1						
Trimethoprim	2	10	0										10													
Cephalosporins - Ceftazidim	2	10	0									7	2	1												
Sulfonamides - Sulfamethoxazol	256	10	1															2	3	3	1				1	

S. Senftenberg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Senftenberg in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Senftenberg	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Coeln in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Coeln	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0												1											
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																	1						

S. Coeln	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Coeln in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Coeln	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Derby in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Derby	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	26	10										14	2				1	9							
Aminoglycosides - Streptomycin	16	26	25													1					25					
Amphenicols - Chloramphenicol	16	26	0													3	23									
Cephalosporins - Cefotaxime	0.5	26	0							1	23	2														
Fluoroquinolones - Ciprofloxacin	0.064	26	1				20		5			1														
Penicillins - Ampicillin	8	26	14											7	5				14							
Quinolones - Nalidixic acid	16	26	1													25				1						
Tetracyclines - Tetracycline	8	26	25												1					25						
Trimethoprim	2	26	1										24	1					1							
Cephalosporins - Ceftazidim	2	26	0										25	1												
Sulfonamides - Sulfamethoxazol	256	26	25																	1					25	

S. Derby	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Derby in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Derby	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Rissen in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Rissen	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	4	0										4													
Aminoglycosides - Streptomycin	16	4	1													1	2			1						
Amphenicols - Chloramphenicol	16	4	0														4									
Cephalosporins - Cefotaxime	0.5	4	0								3	1														
Fluoroquinolones - Ciprofloxacin	0.064	4	0				1		3																	
Penicillins - Ampicillin	8	4	0											4												
Quinolones - Nalidixic acid	16	4	0													4										
Tetracyclines - Tetracycline	8	4	0												4											
Trimethoprim	2	4	0										4													
Cephalosporins - Ceftazidim	2	4	0										4													
Sulfonamides - Sulfamethoxazol	256	4	0																	2	1	1				

S. Rissen	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Rissen in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Rissen	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Tennessee in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Tennessee	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	1															1	1							
Amphenicols - Chloramphenicol	16	2	0														2									
Cephalosporins - Cefotaxime	0.5	2	0								2															
Fluoroquinolones - Ciprofloxacin	0.064	2	0				1		1																	
Penicillins - Ampicillin	8	2	0											2												
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0										2													
Sulfonamides - Sulfamethoxazol	256	2	0																	1	1					

S. Tennessee	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Tennessee in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Tennessee	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Veneziana in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Veneziana	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	1	0										1													
Aminoglycosides - Streptomycin	16	1	0														1									
Amphenicols - Chloramphenicol	16	1	0													1										
Cephalosporins - Cefotaxime	0.5	1	0							1																
Fluoroquinolones - Ciprofloxacin	0.064	1	0						1																	
Penicillins - Ampicillin	8	1	0											1												
Quinolones - Nalidixic acid	16	1	0													1										
Tetracyclines - Tetracycline	8	1	0											1												
Trimethoprim	2	1	0										1													
Cephalosporins - Ceftazidim	2	1	0									1														
Sulfonamides - Sulfamethoxazol	256	1	0																1							

S. Veneziana	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Veneziana in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Veneziana	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Hadar in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Hadar	Turkeys - fattening flocks - at farm - Control and eradication programmes																								
Isolates out of a monitoring program (yes/no)																									
Number of isolates available in the laboratory	unknown																								
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	10	0										8	2											
Aminoglycosides - Streptomycin	16	10	9															1		6	3				
Amphenicols - Chloramphenicol	16	10	0													10									
Cephalosporins - Cefotaxime	0.5	10	0							4	6														
Fluoroquinolones - Ciprofloxacin	0.064	10	10									3	7												
Penicillins - Ampicillin	8	10	7											2	1				7						
Quinolones - Nalidixic acid	16	10	6													4				6					
Tetracyclines - Tetracycline	8	10	10																	10					
Trimethoprim	2	10	0										10												
Cephalosporins - Ceftazidim	2	10	0									3	7												
Sulfonamides - Sulfamethoxazol	256	10	1															3	4	2				1	

S. Hadar	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Hadar in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Hadar	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Montevideo in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Montevideo	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	9	0										5	3	1											
Aminoglycosides - Streptomycin	16	9	0														3	6								
Amphenicols - Chloramphenicol	16	9	0													2	7									
Cephalosporins - Cefotaxime	0.5	9	0							7	2															
Fluoroquinolones - Ciprofloxacin	0.064	9	0				4		5																	
Penicillins - Ampicillin	8	9	0											7	2											
Quinolones - Nalidixic acid	16	9	0													9										
Tetracyclines - Tetracycline	8	9	0												8	1										
Trimethoprim	2	9	0										9													
Cephalosporins - Ceftazidim	2	9	0									7	1	1												
Sulfonamides - Sulfamethoxazol	256	9	0																2	5	1	1				

S. Montevideo	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Montevideo in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Montevideo	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Napoli in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Napoli	Turkeys - fattening flocks - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	2	0										2													
Aminoglycosides - Streptomycin	16	2	0														2									
Amphenicols - Chloramphenicol	16	2	0													1	1									
Cephalosporins - Cefotaxime	0.5	2	0							1	1															
Fluoroquinolones - Ciprofloxacin	0.064	2	0						2																	
Penicillins - Ampicillin	8	2	0											1	1											
Quinolones - Nalidixic acid	16	2	0													2										
Tetracyclines - Tetracycline	8	2	0												2											
Trimethoprim	2	2	0										2													
Cephalosporins - Ceftazidim	2	2	0									2														
Sulfonamides - Sulfamethoxazol	256	2	0																1	1						

S. Napoli	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Napoli in Turkeys - fattening flocks - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Napoli	Turkeys - fattening flocks - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Ohio in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Ohio	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	4	0										4													
Aminoglycosides - Streptomycin	16	4	0														4									
Amphenicols - Chloramphenicol	16	4	0													4										
Cephalosporins - Cefotaxime	0.5	4	0								4															
Fluoroquinolones - Ciprofloxacin	0.064	4	0				1		3																	
Penicillins - Ampicillin	8	4	0											4												
Quinolones - Nalidixic acid	16	4	0													4										
Tetracyclines - Tetracycline	8	4	0												4											
Trimethoprim	2	4	0										4													
Cephalosporins - Ceftazidim	2	4	0										4													
Sulfonamides - Sulfamethoxazol	256	4	0																4							

S. Ohio	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Ohio in Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Ohio	Gallus gallus (fowl) - broilers - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

Table Antimicrobial susceptibility testing of S. Typhimurium in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

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

S. Typhimurium	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes																									
Isolates out of a monitoring program (yes/no)																										
Number of isolates available in the laboratory	unknown																									
Antimicrobials:	Cut-off value	N	n	<=0.002	<=0.004	0.008	0.015	0.016	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	>4096	1024	2048
Aminoglycosides - Gentamicin	2	25	0										20	4	1											
Aminoglycosides - Streptomycin	16	25	12														3	10	3		9					
Amphenicols - Chloramphenicol	16	25	3													8	14			3						
Cephalosporins - Cefotaxime	0.5	25	0							17	7	1														
Fluoroquinolones - Ciprofloxacin	0.064	25	0				2		22	1																
Penicillins - Ampicillin	8	25	9											8	8				9							
Quinolones - Nalidixic acid	16	25	0													22	3									
Tetracyclines - Tetracycline	8	25	9											1	15					9						
Trimethoprim	2	25	0										25													
Cephalosporins - Ceftazidim	2	25	0									19	6													
Sulfonamides - Sulfamethoxazol	256	25	10														1	5	3	6					10	

S. Typhimurium	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Gentamicin	0.25	32

Table Antimicrobial susceptibility testing of S. Typhimurium in Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes - environmental sample - boot swabs - quantitative data [Dilution method]

S. Typhimurium	Gallus gallus (fowl) - laying hens - at farm - Control and eradication programmes	
Isolates out of a monitoring program (yes/no)		
Number of isolates available in the laboratory	unknown	
Antimicrobials:	lowest	highest
Aminoglycosides - Streptomycin	2	128
Amphenicols - Chloramphenicol	2	64
Cephalosporins - Cefotaxime	0.06	4
Fluoroquinolones - Ciprofloxacin	0.008	8
Penicillins - Ampicillin	0.5	32
Quinolones - Nalidixic acid	4	64
Tetracyclines - Tetracycline	1	64
Trimethoprim	0.5	32
Cephalosporins - Ceftazidim	0.25	16
Sulfonamides - Sulfamethoxazol	8	1024

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
Fluoroquinolones	Ciprofloxacin		0.06	
Penicillins	Ampicillin		4	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
Fluoroquinolones	Ciprofloxacin		0.06	
Penicillins	Ampicillin		4	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
Fluoroquinolones	Ciprofloxacin		0.06	
Penicillins	Ampicillin		4	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

2.2 CAMPYLOBACTERIOSIS

2.2.1 General evaluation of the national situation

A. Thermophilic Campylobacter general evaluation

History of the disease and/or infection in the country

See invs and specific CNR websites ("additional information")

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

See invs and cnr websites

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

http://www.infectiologie.com/site/medias/_documents/officiels/afssa/Campylo090207.pdf
http://www.afssa.fr/Documents/MIC-Ra-campylobacter.pdf

Recent actions taken to control the zoonoses

–

Suggestions to the Community for the actions to be taken

–

Additional information

For informations about campylobacter in animals, see specific table on afssa website

For humans figures
http://www.invs.sante.fr/surveillance/campylobacter/default.htm
http://www.cnrch.u-bordeaux2.fr/

For antimicrobial resistance issues:

Monitoring of antibiotics sales
http://www.anmv.afssa.fr/antibioresistance

Thematic folders: Antibiotics resistance
http://www.afssa.fr/index.htm
Resapath net
http://www.afssa.fr/Documents/LABO-Ra-Resapath2008.pdf
NRL website:
http://www.ploufragan.afssa.fr/

2.2.2 Campylobacteriosis in humans

A. Thermophilic Campylobacter in humans

Reporting system in place for the human cases

See "additional information"

Case definition

–

Diagnostic/analytical methods used

–

Notification system in place

–

History of the disease and/or infection in the country

–

Results of the investigation

–

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

–

Relevance as zoonotic disease

–

Additional information

Useful informations can be obtained at:
http://www.invs.sante.fr/surveillance/campylobacter/default.htm

and

http://www.cnrch.u-bordeaux2.fr/

Recommandations for consumers:

2.2.3 Campylobacter in foodstuffs

A. Thermophilic Campylobacter in Broiler meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

–

At meat processing plant

–

At retail

Monitoring plan at retail stage, in 3 categories of broiler products

Frequency of the sampling

At retail

Sampling distributed evenly throughout the year

Type of specimen taken

At retail

Other: carcasses, escalopes, legs

Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

–

At meat processing plant

–

At retail

–

Definition of positive finding

At slaughterhouse and cutting plant

–

At meat processing plant

–

At retail

–

Diagnostic/analytical methods used

At retail

Other: ISO 10272:1 and 2

Preventive measures in place

–

Control program/mechanisms

The control program/strategies in place

Monitoring plan on campylobacter and salmonella in the frame of on Directive EC n°2003-99.
The organisation of monitoring plan is done in close cooperation with DGCCRF (directorate for competition policy consumer affairs and fraud control, ministry of economy), DGS (Directorate for health, ministry of health) AFSSA and InVS (institute of sanitary surveillance).

Recent actions taken to control the zoonoses

–

Suggestions to the Community for the actions to be taken

–

Measures in case of the positive findings or single cases

–

Notification system in place

–

Results of the investigation

–

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

A monitoring plan has been leaded this year at retail stage to complete the EFSA's baseline study of 2008.

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

–

Additional information

Analyses done by the NRL for campylobacter and salmonella
http://www.ploufragan.afssa.fr/

2.2.4 Campylobacter in animals

A. Thermophilic Campylobacter in Gallus gallus

Monitoring system

Sampling strategy

In 2009, the campylobacter spp isolates from poultry were obtained from the national monitoring plan for AMR in 10 slaughterhouses representing the national poultry production. Strains were isolated and identified as campylobacter spp. by local vet. laboratories. The total units positive were estimated by local vet lab. The strains were sent to NRL for identification (PCR) and determination of MICs.

Frequency of the sampling

At slaughter

Sampling distributed evenly throughout the year

Type of specimen taken

At slaughter

Organs:caecum

Methods of sampling (description of sampling techniques)

Rearing period

–

Before slaughter at farm

–

At slaughter

Just after slaughter, method described in the EU baseline study (2008)

Case definition

Rearing period

–

Before slaughter at farm

–

At slaughter

–

Diagnostic/analytical methods used

At slaughter

Other: NF EN ISO 10272:2006 part 1 and 2

Vaccination policy

–

Other preventive measures than vaccination in place

–

Control program/mechanisms

The control program/strategies in place

–

Recent actions taken to control the zoonoses

–

Suggestions to the Community for the actions to be taken

–

Measures in case of the positive findings or single cases

–

Notification system in place

–

Results of the investigation

Cf. EU baseline study for 2008

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

–

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

–

Additional information

Monitoring plan for antimicrobial resistance in 2009 allow us to have results on campylobacter prevalence in poultry

2.2.5 Antimicrobial resistance in Campylobacter isolates

A. Antimicrobial resistance in Campylobacter jejuni and coli in cattle

Sampling strategy used in monitoring

Frequency of the sampling

--

Type of specimen taken

--

Methods of sampling (description of sampling techniques)

--

Procedures for the selection of isolates for antimicrobial testing

--

Methods used for collecting data

--

Laboratory methodology used for identification of the microbial isolates

--

Laboratory used for detection for resistance

Antimicrobials included in monitoring

--

Cut-off values used in testing

--

Preventive measures in place

--

Control program/mechanisms

The control program/strategies in place

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

--

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

--

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

--

Additional information

Interesting information about AMR in animals
http://www.afssa.fr/Documents/SANT-Ra-FARM2006.pdf

B. Antimicrobial resistance in Campylobacter jejuni and coli in foodstuff derived from cattle

Sampling strategy used in monitoring

Frequency of the sampling

—

Type of specimen taken

–

Methods of sampling (description of sampling techniques)

–

Procedures for the selection of isolates for antimicrobial testing

–

Methods used for collecting data

–

Laboratory methodology used for identification of the microbial isolates

–

Laboratory used for detection for resistance

Antimicrobials included in monitoring

–

Cut-off values used in testing

–

Preventive measures in place

–

Control program/mechanisms

The control program/strategies in place

–

Recent actions taken to control the zoonoses

–

Suggestions to the Community for the actions to be taken

–

Measures in case of the positive findings or single cases

–

Notification system in place

–

Results of the investigation

–

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

–

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

–

Additional information

–

C. Antimicrobial resistance in Campylobacter jejuni and coli in foodstuff derived from pigs

Sampling strategy used in monitoring

Frequency of the sampling

–

Type of specimen taken

–

Methods of sampling (description of sampling techniques)

–

Procedures for the selection of isolates for antimicrobial testing

–

Methods used for collecting data

–

Laboratory methodology used for identification of the microbial isolates

–

Laboratory used for detection for resistance

Antimicrobials included in monitoring

–

Cut-off values used in testing

–

Preventive measures in place

–

Control program/mechanisms

The control program/strategies in place

–

Recent actions taken to control the zoonoses

–

Suggestions to the Community for the actions to be taken

–

Measures in case of the positive findings or single cases

–

Notification system in place

–

Results of the investigation

–

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

–

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

–

Additional information

–

D. Antimicrobial resistance in Campylobacter jejuni and coli in foodstuff derived from poultry

Sampling strategy used in monitoring

Frequency of the sampling

–

Type of specimen taken

–

Methods of sampling (description of sampling techniques)

–

Procedures for the selection of isolates for antimicrobial testing

—

Methods used for collecting data

–

Laboratory methodology used for identification of the microbial isolates

–

Laboratory used for detection for resistance

Antimicrobials included in monitoring

–

Cut-off values used in testing

–

Preventive measures in place

–

Control program/mechanisms

The control program/strategies in place

–

Recent actions taken to control the zoonoses

–

Suggestions to the Community for the actions to be taken

–

Measures in case of the positive findings or single cases

–

Notification system in place

–

Results of the investigation

–

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

–

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

–

Additional information

http://www.ploufragan.afssa.fr/

E. Antimicrobial resistance in Campylobacter jejuni and coli in pigs

Sampling strategy used in monitoring

Frequency of the sampling

–

Type of specimen taken

Faeces samples were collected just after slaughter directly in the intestine of pigs. Pigs came from 10 slaugterhouses.

Methods of sampling (description of sampling techniques)

-

Procedures for the selection of isolates for antimicrobial testing

Strains were isolated and identified as campylobacter spp. by local vet. laboratories. The total units positive were estimated upon the results of local vet lab. The strains were sent to NRL for identification (PCR) and determination of MICs. However after thawings 40 and 64 isolates from poultry or pigs could not be revive thus identification and MICs were determined on the remaining cultural isolates.

Methods used for collecting data

The strains campylobacter were collected during the monitoring plan for AMR surveillance 2009

Laboratory methodology used for identification of the microbial isolates

Iso 10272

Laboratory used for detection for resistance

Antimicrobials included in monitoring

see table

Cut-off values used in testing

see table

Preventive measures in place

–

Control program/mechanisms

The control program/strategies in place

–

Recent actions taken to control the zoonoses

–

Suggestions to the Community for the actions to be taken

–

Measures in case of the positive findings or single cases

–

Notification system in place

–

Results of the investigation

–

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

–

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

–

Additional information

Interesting information about AMR in animals
http://www.afssa.fr/Documents/SANT-Ra-FARM2006.pdf

F. Antimicrobial resistance in Campylobacter jejuni and coli in poultry

Sampling strategy used in monitoring

Frequency of the sampling

Monitoring plan for AMR in campylobacter.

Type of specimen taken

Caeca contents

Methods of sampling (description of sampling techniques)

Like in the EU baseline study 2008

Procedures for the selection of isolates for antimicrobial testing

Strains were isolated and identified as campylobacter spp. by local vet. laboratories. The total units positive were estimated upon the results of local vet lab. The strains were sent to NRL for identification (PCR) and determination of MICs. However after thawings , 40 isolates from poultry could not be revived thus identification and MICs were determined on the remaining cultural isolates.

Methods used for collecting data

--

Laboratory methodology used for identification of the microbial isolates

--

Laboratory used for detection for resistance

Antimicrobials included in monitoring

See table

Cut-off values used in testing

See table

Preventive measures in place

--

Control program/mechanisms

The control program/strategies in place

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

--

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

--

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

--

Additional information

NRL for campylobacter and salmonella
http://www.ploufragan.afssa.fr/

Table Antimicrobial susceptibility testing of Campylobacter in Pigs

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
Isolates out of a monitoring program (yes/no)	yes		yes			
Number of isolates available in the laboratory	82		0			
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin	82	0				
Fluoroquinolones - Ciprofloxacin	82	38				
Macrolides - Erythromycin	82	37				
Tetracyclines - Tetracycline	82	78				
Fully sensitive	82	1				
Resistant to 1 antimicrobial	82	10				
Resistant to 2 antimicrobials	82	26				
Resistant to 3 antimicrobials	82	34				
Resistant to 4 antimicrobials	82	11				
Resistant to >4 antimicrobials	82	0				
Aminoglycosides - Streptomycin	82	55				

Table Antimicrobial susceptibility testing of Campylobacter in Gallus gallus (fowl)

Campylobacter	C. coli		C. jejuni		Campylobacter spp., unspecified	
Isolates out of a monitoring program (yes/no)	yes		yes			
Number of isolates available in the laboratory	80		59			
Antimicrobials:	N	n	N	n	N	n
Aminoglycosides - Gentamicin	79	0	51	0		
Fluoroquinolones - Ciprofloxacin	79	53	51	29		
Macrolides - Erythromycin	79	11	51	0		
Tetracyclines - Tetracycline	79	74	51	34		
Fully sensitive	79	1	51	8		
Resistant to 1 antimicrobial	79	28	51	22		
Resistant to 2 antimicrobials	79	36	51	20		
Resistant to 3 antimicrobials	79	10	51	1		
Resistant to 4 antimicrobials	79	4	51	0		
Resistant to >4 antimicrobials	79	0	51	0		
Aminoglycosides - Streptomycin	79	8	51	2		

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

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

C. jejuni	Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	59																								
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	1	51	0					26	22	3															
Aminoglycosides - Streptomycin	2	51	2								43	6	2												
Fluoroquinolones - Ciprofloxacin	1	51	29				3	12	5	2	0	0	0	29											
Quinolones - Nalidixic acid	16	51	31									1	10	8	1	6	17	8							
Tetracyclines - Tetracycline	2	51	34						12	2	3	0	3	0	3	28									
Macrolides - Erythromycin	4	51	0							50	1														

Table Antimicrobial susceptibility testing of C. coli in Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring - Official sampling - quantitative data [Dilution method]

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

C. coli	Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	80																								
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	79	0					1	24	53	1														
Aminoglycosides - Streptomycin	4	79	8								23	44	4	0	2	6									
Fluoroquinolones - Ciprofloxacin	1	79	53					22	4	0	0	0	0	53											
Quinolones - Nalidixic acid	32	79	41										17	9	0	12	39	2							
Tetracyclines - Tetracycline	2	79	74						5	0	0	0	0	0	1	73									
Macrolides - Erythromycin	16	79	11							58	10	0	0	0	0	0	11								

Table Antimicrobial susceptibility testing of C. coli in Pigs - at slaughterhouse - Monitoring - Official sampling - quantitative data [Dilution method]

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

C. coli	Pigs - at slaughterhouse - Monitoring																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	82																								
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	82	0						2	38	42														
Aminoglycosides - Streptomycin	4	82	55									2	25	1	3	51									
Fluoroquinolones - Ciprofloxacin	1	82	38				17	22	5	0	0	0	0	38											
Quinolones - Nalidixic acid	32	82	25										25	19	0	13	20	5							
Tetracyclines - Tetracycline	2	82	78						2	1	0	1	5	9	12	52									
Macrolides - Erythromycin	16	82	37							33	9	2	0	0	1	1	36								

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

Test Method Used
Broth dilution

Standard methods used for testing
NCCLS/CLSI

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	2	
	Streptomycin	EFSA	4	
Fluoroquinolones	Ciprofloxacin	EFSA	1	
Macrolides	Erythromycin	EFSA	16	
Quinolones	Nalidixic acid		32	
Tetracyclines	Tetracycline	EFSA	2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		16	
Tetracyclines	Tetracycline		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		16	
Tetracyclines	Tetracycline		2	

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

Test Method Used
Broth dilution

Standard methods used for testing
NCCLS/CLSI

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	1	
	Streptomycin	EFSA	2	
Fluoroquinolones	Ciprofloxacin	EFSA	1	
Macrolides	Erythromycin	EFSA	4	
Quinolones	Nalidixic acid		16	
Tetracyclines	Tetracycline	EFSA	2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		4	
Tetracyclines	Tetracycline		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		4	
Tetracyclines	Tetracycline		2	

2.3 LISTERIOSIS

2.3.1 General evaluation of the national situation

A. Listeriosis general evaluation

History of the disease and/or infection in the country

See invs website: www.invs.sante.fr

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

Consult AFSSA opinion about the link between increasing of humans cases and evolution of consumption.
Avis de l'AFSSA sur l'augmentation des cas de listériose et le lien
éventuel avec l'évolution des modes de production, de préparation et de
consommation des aliments
http://www.afssa.fr/Documents/MIC-Ra-ListerioseAliments.pdf

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

Collected datas in the frame of annual monitoring plans do not show any link between the increase of contamination of ready-to-eat food and increasing number of human cases in France (and in the other MS).
Specific study about listeria in fish products: http://www.academie-veterinaire-defrance.org/bulletin/pdf/2009/03.pdf

Recent actions taken to control the zoonoses

The organisation of monitoring plan is done in close cooperation with DGCCRF (directorate for competition policy consumer affairs and fraud control, ministry of economy), DGS (Directorate for health, ministry of health) AFSSA and InVS (institute of sanitary surveillance).

Suggestions to the Community for the actions to be taken

amendment of microbiological criteria defined for category 1.2 of Reg. EC n°2073/2005. The limit 100 UFC/g along shelf life should be applied on when food business operators are able to demostrate by acurate shelf life studies, that this limit is respected until the end of life period of the product. Discussion still ongoing in specific working group.

Additional information

See website referenced in "listeriosis in humans"

NRL: See Afssa Website: http://www.afssa.fr/index.htm
Laboratoire d'études et de recherches sur la qualité des aliments et sur les procédés agroalimentaires
23, avenue du Général de Gaulle
94706 MAISONS-ALFORT Cedex

specific information:

2.3.2 Listeriosis in humans

A. Listeriosis in humans

Reporting system in place for the human cases

See reference in "additional information"

Case definition

-

Diagnostic/analytical methods used

Consult CNR website (see below)

Notification system in place

-

History of the disease and/or infection in the country

Consult Invs website and the specific CNR website

Results of the investigation

-

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

-

Relevance as zoonotic disease

-

Additional information

http://www.invs.sante.fr/surveillance/listeriose/default.htm
To get informations about the surveillance system in France and the prevalence:
http://www.invs.sante.fr/surveillance/listeriose/nb_annuel_cas_listeriose_1999_2008.pdf

To get information about the National reference center of listeria (CNR)
http://www.pasteur.fr/ip/easysite/go/03b-00003t-0dn/actualites-rapports

2.3.3 Listeria in foodstuffs

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance [1)]	CCA	Objective sampling	Official sampling	food sample > milk		Single	25g	1060	1	1060	1
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance [2)]	CCA	Objective sampling	Official sampling	food sample > milk		Single	25g	266	2	266	2
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance [3)]	CCA	Objective sampling	Official sampling	food sample > milk		Single	25g	1525	2	1525	2
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at processing plant - Surveillance	CCA	Objective sampling	Official sampling	food sample > milk		Single	25g	1305	1	1305	1
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance [4)]	CCA	Objective sampling	Official sampling	food sample > milk		Single	25g	414	0	414	0

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant - Surveillance [1)]	1	1	0

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail - Surveillance [2)]	2	1	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance [3)]	2	0	2
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at processing plant - Surveillance	1	1	0
Dairy products (excluding cheeses) - ice-cream - at retail - Surveillance [4)]	0	0	0

Comments:

[1)] n=5

[2)] n=5

[3)] analytical method : ISO 11290 -1

[4)] analytical method : ISO 11290 -1

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance [1)]	CCA	Objective sampling	Official sampling	food sample > meat		Single	25g	164	6	164	6
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance [2)]	CCA	Objective sampling	Official sampling	food sample > meat		Single	25g	4475	64	4475	64
Fish - smoked - at retail - Surveillance [3)]	CCA	Objective sampling	Official sampling	food sample		Single	25g	386	34	386	34
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance [4)]	CCA	Objective sampling	Official sampling	food sample		Single	25g	972	7	972	7
Fish - raw - at retail - Surveillance [5)]	CCA	Objective sampling	Official sampling	food sample		Single	25g	126	6	126	6
Fishery products, unspecified - seafood pâté - at retail - Surveillance [6)]	CCA	Objective sampling	Official sampling	food sample		Single	25g	880	9	880	9

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance [1)]	6	1	1
Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance [2)]	64	7	9
Fish - smoked - at retail - Surveillance [3)]	34	0	0
Vegetables - pre-cut - ready-to-eat - at retail - Surveillance [4)]	7	1	1

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Fish - raw - at retail - Surveillance [5)]	6	0	0
Fishery products, unspecified - seafood pâté - at retail - Surveillance [6)]	9	3	1

Comments:

[1)] Analytical method : ISO 11290 -1

[2)] analytical method : ISO 11290 -1

[3)] analytical mathod : ISO 11290 -1

[4)] including 220 samples "sprouted seeds"

[5)] analytical method : ISO 11290 -1

[6)] analytical method : ISO 11290 -1

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

A. Verotoxigenic Escherichia coli infections general evaluation

History of the disease and/or infection in the country

For any information, check website of CNR and INVS (see part "additional information in Humans)

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

In accordance with Directive (EC) N°2003-99, monitoring plans on minced beef meat (possibly eaten raw or low cooked) sampled at production or retail stage are conducted yearly since 2006. In 2009, the annual monitoring plan includes also raw milk cheese sampled at production stage.

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

No link has been demonstrated between contamination in foodstuff by STEC serotype considered as pathogen (other than O157:H7) and human cases.

Recent actions taken to control the zoonoses

Revision of definitions of pathogen STEC
Avis AFSSA n°2008-SA-0031 and 2010-SA-0031 available on AFSSA's website

Creation of a national net of official laboratories for VTEC (17 labs) directed by the NRL: diffusion of the official method (LCR method) ISO 13 136 .

Suggestions to the Community for the actions to be taken

Harmonisation of possible management options to apply when strains other than O157:H7 are identified.

Urgent need of harmonization of pathogenic STEC strains definition of at European Union level.
Urgent need of harmonization and standardization of detection methods at international level (ISO method).

Additional information

See websites referenced in TF "general evaluation" :
Institut national de Veille sanitaire (InVS)
National laboratory center (human): CNR

The NRL for E.coli is:

VET AGRO SUP Campus vétérinaire de Lyon
LNR Escherichia coli STEC
Laboratoire d'Etudes des microorganismes
alimentaires pathogènes (LMAP)
1 avenue Bourgelat
69280 Marcy l'Etoile
laboratoire.umap@vet-lyon.fr

Specific information about VTEC

2.4.2 E. coli infections in humans

A. Verotoxigenic Escherichia coli infections in humans

Reporting system in place for the human cases

See additional information

Case definition

-

Diagnostic/analytical methods used

-

Notification system in place

-

History of the disease and/or infection in the country

-

Results of the investigation

-

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

-

Relevance as zoonotic disease

-

Additional information

Useful information about human surveillance and cases on CNR and INVS websites:
http://www.pasteur.fr/ip/easysite/go/03b-00003l-018/actualites-rapports

and

http://www.invs.sante.fr/surveillance/shu/default.htm

2.4.3 Escherichia coli, pathogenic in foodstuffs

Table VT E. coli in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Analytical Method	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant - Surveillance [1)]	CCA	Objective sampling	Official sampling	food sample > meat		PCR	Single	25g	1878	9	3

	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat from bovine animals - minced meat - intended to be eaten raw - at processing plant - Surveillance [1)]	6	0

Comments:

[1)] PCR CEN/TC 275/WG 6

2.4.4 Escherichia coli, pathogenic in animals

A. Verotoxigenic Escherichia coli in cattle (bovine animals)

Monitoring system

Sampling strategy

-

Methods of sampling (description of sampling techniques)

Animals at farm

-

Animals at slaughter (herd based approach)

-

Case definition

Animals at farm

-

Animals at slaughter (herd based approach)

-

Vaccination policy

-

Other preventive measures than vaccination in place

-

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

-

Notification system in place

-

Results of the investigation

-

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

-

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

-

Additional information

No monitoring plan in 2009. See "general evaluation". Monitoring plans foreseen in 2010 and 2011.

2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1 General evaluation of the national situation

A. Tuberculosis general evaluation

History of the disease and/or infection in the country

See invs and CNR website
CNR: http://www.pasteur.mg/spip.php?rubrique47
Invs: www.invs.gouv.fr

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

Risk exposure in specific departement with high density of wild fauna.

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

Recent actions taken to control the zoonoses

Surveillance of specific at risk zone and decreasing policy in area with high density of wild fauna.

Suggestions to the Community for the actions to be taken

--

Additional information

For specific information on animal side consult the specific page about tuberculosis on http://www.anses.fr/

2.5.2 Tuberculosis, mycobacterial diseases in humans

A. Tuberculosis due to Mycobacterium bovis in humans

Reporting system in place for the human cases

See additional information

Case definition

-

Diagnostic/analytical methods used

-

Notification system in place

-

History of the disease and/or infection in the country

-

Results of the investigation

-

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

-

Relevance as zoonotic disease

-

Additional information

For epidemiological information about tuberculosis in France
http://www.invs.sante.fr/surveillance
CNR mycobacterium : http://cnrmyctb.free.fr/

2.5.3 Mycobacterium in animals

A. Mycobacterium bovis in bovine animals

Status as officially free of bovine tuberculosis during the reporting year

The entire country free

France is recognised officially tuberculosis free (OTF) since December 2000 in accordance with the Community legislation (decision CE/2003/467).

Free regions

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Additional information

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Monitoring system

Sampling strategy

Infection with M. bovis or M. tuberculosis is notifiable under the veterinary public health legislation in all animal mammal species. The TB testing programme applied in France follows the principles of Council Directive 64/432/EEC. All animals slaughtered for human consumption are officially inspected post-mortem by a veterinarian. Suspicious lesions are sampled for histological and bacteriological examination.

Frequency of the sampling

The frequency of the skin-testing depends on the geographical location of herds and area history excepted for herds considered at risk and for moving animals.

Compulsory tuberculin testing of cattle herds takes place every one to five years according to the proportion of herds in a specific area (département) sustaining a confirmed TB breakdown over the previous years. At the end of 2009, regular skin testing has been stopped in 60 "départements". The testing frequency is every four years in 5 "département", every three years in 13 "départements", every two years in 8 "départements", annual in 6 "départements" and stopped with limited areas with annual testing in 6 “départements” . TB testing intervals are reviewed nationally once a year, for compliance with 64/432/EEC. For the detailed departements contact the reporting officer of the CCA.

Furthermore, herds are subjected to annual testing if they represent a high public or animal health risk (e.g. herds infected less than 10 years ago). Animals moving from a herd to another are also individually skin tested whenever the herd of origine is considered at risk.

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

Type of specimen taken

Blood

Methods of sampling (description of sampling techniques)

--

Case definition

A case is an animal:
- from which M. bovis or M. tuberculosis has been isolated,
- with a positive result to a comparative skin test and with tuberculosis evoking histopathological lesions,
- with a positive result to a comparative skin test and with isolation of mycobacterias from tuberculosis group,
- with a positive PCR results and tuberculosis evoking histopathological lesions
- with a positive result to any test and belonging to an infected herd.

Diagnostic/analytical methods used

- Single intra-dermal skin test used for routine testing,
- Comparative intra-dermal skin test,
- Inspection of carcasses at slaughterhouses,
- Histological examination,
- Bacteriological examination,
- Gamma interferon test.
- PCR

Vaccination policy

--

Other preventive measures than vaccination in place

--

Control program/mechanisms

The control program/strategies in place

In 1963, at the time of the implementation of the national control programme, the aim was the fight against tuberculosis, and consequently testing herds. Since 2003, the priority is given to the protection of the free herds, which corresponds better to the situation currently met in France, a situation of end of prophylaxis and very low prevalence.

The epidemiological unit of the programme is the herd. The program takes into account the diversity of the epidemiological cycles by the inclusion of the Bovinae (Bos taurus, Bos indicus, Bison bison, Bison bonasus and Bubalus bubalus) and of the Capra.

The testing of tuberculous animals in herds is founded on the clinical or allergic diagnosis of the disease. The diagnosis of certainty is based on the bacteriological isolation of M. bovis and M. tuberculosis. The frequency of herd testings can be reduced in certain départements if the annual prevalence rate of cattle herds infected is particularly low. The monitoring system is centred on the herds at risk. The bovine herds tested negative are qualified "officially tuberculosis free".

The reduction of the frequency of tuberculin-test is combined with the control of the risks of infection of herds. Whenever a new herd is created, the tests of tuberculosis qualification are carried out. The free status is also subject to the respect of the preventive measures against the risks related to the introduction of an animal.

Recent actions taken to control the zoonoses

Studies in wild fauna

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

In case of isolation of M. bovis or M. tuberculosis from cattle, the herd of origin is considered as infected. Total depopulation of this herd is compulsory.

Notification system in place

Notification is mandatory

Results of the investigation

In 2008, more than 240 000 herds, housing nearly 20 million bovines were covered by the French In 2009, more than 230 000 herds, housing nearly 14.2 million bovines were covered by the French programme of prophylaxis against bovine tuberculosis (Cf. Table) Out of these, 768,000 animals were skin tested from 17,800 herds.

The geographical distribution of the outbreaks of bovine tuberculosis on the last years shows that the residual outbreaks are located mainly in the south of the country, and in 2008 another area of concern has been identified in Côte-d'Or département (Burgundy)

Specific study:

For 50 years now, tuberculosis due to Mycobacterium bovis (TB) has been described in wildlife species of several countries throughout the world. Depending on the context, wild animals can be considered as sentinel or reservoirs for cattle and/or humans. In France, TB was discovered in 2001 in wild ungulates in the Brotonne Forest, Normandy. Despite the implementation of adapted control measures, the infection was still present in 2006 in 20% of red deer and 30% of wild boars. Thus, total depopulation of wild reddeer, considered as the main reservoir of TB, was exceptionally decided, implemented and seems to be effective. In Burgundy, where TB in cattle has re-emerged since 2002, grouped cases have been identified in wild boars since 2007 and in badgers since 2009. As a preventive measure, a strong reduction of these species' populations was decided to reduce the risk of spillback to cattle. Elsewhere in France, sporadic detection of TB-cases in wild boars seems to reveal the persistence of the infection either in cattle and/or in the environment. In each of these situations, the same genotypes of M. bovis strains isolated from wildlife and cattle were disclosed, showing that TB evolves in a multi-host system, hampering the sanitary management of this notifiable disease, which has nevertheless nearly been eradicated from cattle. See http://www.invs.sante.fr/beh/2010/hs/index.htm#12_en

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

The annual herd prevalence rate, which was 0.9% in 1984, decreased to 0.05% in 2008. . Although the downward trend of the annual herd rates of prevalence and incidence indicates an increase during the last years, the situation is still favorable in France.

Abstract

Report on bovine tuberculosis surveillance in 2009: overall low prevalence but reinforced control in certain areas

In 2009, the prevalence of bovine tuberculosis in France was 0.04 % and the country has been officially recognized as free of bovine tuberculosis for several years. The aim of the surveillance is the early detection of any outbreak, in order to continue the eradication of the disease and to maintain the disease free status within herds and for the whole territory.

Due to the detection of a few zones where the disease still

persists, surveillance is enhanced in these same areas.
See http://www.afssa.fr/bulletin-epidemiologique/Documents/BEP-mg-BE40.pdf

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

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Additional information

NRL laboratory: ANSES Lerpaz, Unité Zoonoses Bactériennes, 94706 Maisons-Alfort Cedex, France
http://www.afssa.fr/Documents/SANT-Fi-TUB.pdf
http://www.invs.sante.fr/beh/2010/hs/index.htm#12_en
http://www.afssa.fr/bulletin-epidemiologique/Documents/BEP-mg-BE40.pdf

For wild fauna:
http://www.academie-veterinaire-defrance.org/bulletin/pdf/2006/Numero05/393.pdf

Net of hunters and wild faune national association with passive or active surveillance study:
ONCFS: http://www.oncfs.gouv.fr/
Fédération nationale des chasseurs: http://www.chasseurdefrance.com/

Specific study about wild fauna surveillance:
http://www.academie-veterinaire-defrance.org/bulletin/pdf/2009/03.pdf

B. Mycobacterium bovis in farmed deer

Monitoring system

Sampling strategy

Farmed deer and goats : examination of lesions in slaughterhouse (no routine tuberculin tests)

Frequency of the sampling

--

Type of specimen taken

Methods of sampling (description of sampling techniques)

--

Case definition

--

Diagnostic/analytical methods used

--

Vaccination policy

--

Other preventive measures than vaccination in place

--

Control program/mechanisms

The control program/strategies in place

--

Recent actions taken to control the zoonoses

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

--

Notification system in place

--

Results of the investigation

--

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

--

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

--

Additional information

--

Table Tuberculosis in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Mycobacterium	M. bovis	M. tuberculosis	Mycobacterium spp., unspecified
Pigs [1)]	NRL	Suspect sampling		animal sample		Animal	36	35	1	0	0
Badgers [2)]	NRL	Suspect sampling		animal sample		Animal	68	48	33	0	10
Alpacas - unspecified - Clinical investigations [3)]	NRL	Suspect sampling		animal sample		Animal	1	0	0	0	0
Cats - pet animals - unspecified - Clinical investigations [4)]	NRL	Suspect sampling		animal sample		Animal	9	4	0	0	0
Cattle (bovine animals) - Control and eradication programmes [5)]	NRL	Suspect sampling		animal sample		Animal	284	247	149	0	58
Deer - wild - red deer - from hunting - Surveillance [6)]	NRL	Suspect sampling		animal sample		Animal	31	19	0	0	18
Deer - wild - roe deer - from hunting - Surveillance [7)]	NRL	Suspect sampling		animal sample		Animal	2	2	1	0	1
Deer - zoo animals - fallow deer - at zoo - Surveillance [8)]	NRL	Objective sampling		animal sample		Animal	19	9	0	0	8
Dogs - pet animals - unspecified - Clinical investigations [9)]	NRL	Suspect sampling		animal sample		Animal	4	2	0	0	0
Elephants - zoo animals - at zoo - Clinical investigations [10)]	NRL	Suspect sampling		animal sample		Animal	1	1	0	0	1
Foxes - wild - from hunting - Surveillance [11)]	NRL	Suspect sampling		animal sample		Animal	1	1	1	0	0
Monkeys - unspecified - Clinical investigations [12)]	NRL	Suspect sampling		animal sample		Animal	7	7	0	1	0
Sea lion - zoo animals - at zoo - Clinical investigations [13)]	NRL	Suspect sampling		animal sample		Animal	9	4	0	0	4

Table Tuberculosis in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Mycobacterium	M. bovis	M. tuberculosis	Mycobacterium spp., unspecified
Solipeds, domestic - horses - Clinical investigations [14)]	NRL	Suspect sampling		animal sample		Animal	1	0	0	0	0
Wild boars - wild - from hunting - Surveillance [15)]	NRL	Suspect sampling		animal sample		Animal	191	140	19	0	86

	M. avium complex	M. caprae	M. microti
Pigs [1)]	33	0	1
Badgers [2)]	5	0	0
Alpacas - unspecified - Clinical investigations [3)]	0	0	0
Cats - pet animals - unspecified - Clinical investigations [4)]	1	0	3
Cattle (bovine animals) - Control and eradication programmes [5)]	40	0	0
Deer - wild - red deer - from hunting - Surveillance [6)]	1	0	0
Deer - wild - roe deer - from hunting - Surveillance [7)]	0	0	0
Deer - zoo animals - fallow deer - at zoo - Surveillance [8)]	1	0	0
Dogs - pet animals - unspecified - Clinical investigations [9)]	1	0	1

Table Tuberculosis in other animals

	M. avium complex	M. caprae	M. microti
Elephants - zoo animals - at zoo - Clinical investigations [10)]	0	0	0
Foxes - wild - from hunting - Surveillance [11)]	0	0	0
Monkeys - unspecified - Clinical investigations [12)]	6	0	0
Sea lion - zoo animals - at zoo - Clinical investigations [13)]	0	0	0
Solipeds, domestic - horses - Clinical investigations [14)]	0	0	0
Wild boars - wild - from hunting - Surveillance [15)]	35	0	0

Comments:

[1)] unit tested for confirmation analysis

[2)] unit tested for confirmation analysis

[3)] unit tested for confirmation analysis

[4)] unit tested for confirmation analysis

[5)] unit tested for confirmation analysis

[6)] unit tested for confirmation analysis

[7)] unit tested for confirmation analysis

[8)] unit tested for confirmation analysis

[9)] unit tested for confirmation analysis

[10)] unit tested for confirmation analysis

Table Tuberculosis in other animals

Comments:

[11)] unit tested for confirmation analysis

[12)] unit tested for confirmation analysis

[13)] unit tested for confirmation analysis

[14)] unit tested for confirmation analysis

[15)] unit tested for confirmation analysis

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

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Routine tuberculin testing		Number of tuberculin tests carried out before the introduction into the herds (Annex A(I)(2)(c) third indent (1) of Directive 64/432/EEC)	Number of animals with suspicious lesions of tuberculosis examined and submitted to histopathological and bacteriological	Number of animals detected positive in bacteriological examination
	Herds	Animals	Number of herds	%	Number of herds	%	Interval between routine tuberculin tests	Number of animals tested			
France	232592	19005674	232337	99.89	173	.07	others, please specify	733476	121933	163	36
Total : [1)]	232592	19005674	232337	99.89	173	.07	N.A.	733476	121933	163	36

Comments:

[1)] N.A.

2.6 BRUCELLOSIS

2.6.1 General evaluation of the national situation

A. Brucellosis general evaluation

History of the disease and/or infection in the country

Bovine brucellosis: last outbreak reported in 2003.

Ovine and Caprine brucellosis: last outbreak reported in 2003.

Porcine brucellosis: sporadic outbreaks in free-ranged farms due to Brucella suis biovar 2. The source is the wild boar and hares population where B. suis biovar 2 is enzootic. This biovar is classically considered as non-pathogenic to humans, but two human cases were reported in France in 2004 and 2005 in patients with comorbidity and due to regular and important exposure to wild boars and/or hares.

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

-no change

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

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Additional information

http://www.afssa.fr/index.htm
see specific web page "brucellose"
http://www.afssa.fr/Documents/SANT-Fi-BRU.pdf
http://www.afssa.fr/Documents/MIC-Fi-Brucella.pdf
Specific study for wild fauna:
http://www.academie-veterinaire-defrance.org/bulletin/pdf/2009/03.pdf

2.6.2 Brucellosis in humans

A. Brucellosis in humans

Reporting system in place for the human cases

Informations are available on INVS website
NRL for animal brucellosis and NRC for brucella are the same.

Case definition

-

Diagnostic/analytical methods used

--

Notification system in place

http://www.invs.sante.fr/surveillance/brucellose/envoi_souche.pdf

History of the disease and/or infection in the country

-

Results of the investigation

-

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

-

Relevance as zoonotic disease

-

Additional information

http://www.invs.sante.fr/surveillance/brucellose/default.htm

2.6.3 Brucella in animals

A. Brucella abortus in bovine animals

Status as officially free of bovine brucellosis during the reporting year

The entire country free

France is officially brucellosis free (OBF) since Septembre 2005 in accordance with the Community legislation (decision CE/2003/467).

Free regions

-

Additional information

-

Monitoring system

Sampling strategy

Bovine brucellosis is a notifiable disease under the domestic animal health legislation. All abortions are required to be notified. Aborting animals and abortion material are sampled and tested both serologically and bacteriologically.
The epidemiological unit of the monitoring system is the herd. Before September 2005, herds were monitored either by an annual serological testing of animals more than 12 months old, or by bulk milk testing (Ring-Test or ELISA test) four times per year. Since September 2005, herds are monitored either by an annual serological testing of 20 % animals more than 24 months old, or by bulk milk testing (Ring-Test or ELISA test, and ELISA test since april 2008) once a year.

Frequency of the sampling

-

Methods of sampling (description of sampling techniques)

Blood, milk and organ/tissues are sampled as appropriate (see sampling strategy).

Case definition

A case is an animal:
- from which Brucella sp has been isolated,
- With a positive result to serological tests when originating from an infected herd,
- with a positive result to a PCR test.

Diagnostic/analytical methods used

The diagnostic methods are serology (serum testing by: RBT, CF, ELISA and bulk milk testing by ELISA), bacteriology, PCR, and brucellin skin-test.

Vaccination policy

Vaccination of animals against brucellosis is expressly forbidden by animal health legislation.

Other preventive measures than vaccination in place

-

Control program/mechanisms

The control program/strategies in place

Bovine brucellosis control is based on technical collaboration between the veterinary services, the sanitary veterinarians, the veterinary or the dairy interprofessional laboratories and the Animal Health Groups (AHG). In each department, an AHG brings together the stockbreeders, the veterinary services, the agricultural organisations, the veterinary practicioners and veterinary laboratories.

The regulation stipulates that any cattle herd shall acquire and preserve the "officially bovine brucellosis free" status. The regulation lays down that vaccination is forbidden. Herd testing and introduction tests for movements considered at risk are mandatory. Abortions, which are mandatory notifiable, have to be officially investigated. Slaughtering of infected animals is mandatory. The total depopulation of an infected herd is mandatory.

The AHG created for more than 40 years inform the stockbreeders and share out the costs of the surveillance/eradication program among the stockbreeders (members of AHG). Under the supervision of the DDPP (local veterinary services, formely known as DDSV), the sanitary veterinarians take the official blood samples, which are analysed by the departmental (public) veterinary laboratories.

The interprofessional dairy laboratories perform the routine test on bulk milk. These laboratories are approved for testing brucellosis and are regularly involved in interlaboratory ring-tests organised by the National Reference Laboratory for brucellosis (Afssa). The local vet service receives the results of the analyses, ensures the follow-up of the herd status, performs the procedures for differential diagnosis of the disease as well as supervises the cleaning and disinfection of herds infected.

The CCA (General directorate for food - Unit animal health) works out the regulation and collects the epidemiological data. Afssa (bacterial zoonoses Unit - national and EU reference laboratory and OIE/FAO of reference for animal brucellosis), brings a scientific and technical support to CCA, identifies the strains of Brucella isolated in France and controls all the reagents/batches.

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

In case of isolation of Brucella from cattle, the herd of origin is considered as infected and total depopulation is implemented.

Notification system in place

Bovine brucellosis is a notifiable disease under animal health legislation. Notification of abortion is compulsory. Aborting animals and abortion material are sampled for serological and bacteriological examinations.

Results of the investigation

In 2010, more than 230,000 herds, housing nearly 19 million bovines were included in the surveillance program of bovine brucellosis. In 2010, 141,000 herds were submitted to serological tests and 71,000 herds were submitted to tests on bulk milk for brucellosis; nearly 61,000 herds reported abortions.

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

The annual herd prevalence rate, which was 1.65% in 1984, decreased to 0% in 2004 and remained as such up to now. The annual herd incidence rate, which was 0.5% in 1985, decreased to 0% in 2004 and

remained as such up to now.
The last abortion case caused by Brucella in cattle occurred in June 2002. Therefore, bovine brucellosis is considered eradicated and France achieved Officially Brucellosis Free status in September 2005.
Report on bovine brucellosis surveillance in 2009:
surveillance requirements in a stabilised context
France has been recognized as officially free of bovine brucellosis by the European Commission since 2005 and no outbreak of this disease has been reported since 2003. The national surveillance programme is devoted to detecting any reintroduction so as to maintain this disease free status. It consists of annual serological surveillance within cattle herds as well as abortion notification. The implementation of this surveillance programme is satisfactory. Nevertheless, positive serological reactions are regularly observed, although none are confirmed after specific investigations. Cross-reactions, well known in brucellosis serology, explain these false positive results which need appropriate management.

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

The risk of humans contracting brucellosis from bovine animals is assumed to be extremely low.

Additional information

Additional information can be obtained in the report sent to EC (Health and consumer directorate), dealing with the informations about the diseases targeted in annex E of directive 64/432 of the council.

B. Brucella melitensis in goats

Status as officially free of caprine brucellosis during the reporting year

The entire country free

-

Free regions

Sixty-four "départements" of France are recognised officially free for ovine and caprine brucellosis (B. melitensis) since 2001 (decision CE/93/52) and no case has been reported in France since 2003.

Additional information

-

Monitoring system

Sampling strategy

On serum (Rose Bengal Test, Complement fixation Test)
Notification and investigation of cases of abortion by Bacteriological examination

Frequency of the sampling

-

Methods of sampling (description of sampling techniques)

-

Case definition

An infected animal is an animal :
From which Brucella sp has been isolated (except B. ovis): B. abortus, B melitensis, or with a positive serological result when belonging to an infected flock.

Diagnostic/analytical methods used

-

Vaccination policy

Vaccination of bovines, sheep and goats against brucellosis is forbidden.

Other preventive measures than vaccination in place

-

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

In case of isolation of Brucella from goats, the herd of origin is considered as infected and total depopulation is implemented.

Notification system in place

Caprine brucellosis is a notifiable disease under animal health legislation. Notification of abortion is compulsory. Aborting animals and abortion material are sampled for serological and bacteriological examinations.

Results of the investigation

-

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

The annual herd prevalence rate, which was 0.4% in 1993, it has been 0% since 2003. The annual herd incidence rate, which was 0.24% in 1991, it has been 0% since 2003.

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

-

Additional information

Additional information can be obtained in the report sent to EC (Health and consumer directorate), dealing with the informations about the diseases targeted in annex E of directive 64/432 of the council and in the report about french surveillance of ovine and caprine brucellosis in officially free french departements

C. Brucella melitensis in sheep

Status as officially free of ovine brucellosis during the reporting year

The entire country free

-

Free regions

Sixty-four "départements" of France are recognised officially free for ovine and caprine brucellosis (B. melitensis) since 2001 (decision CE/93/52) and no case has been detecged since 2003.
See "Brucella melitensis in goats" for other sections.

Additional information

-

Monitoring system

Sampling strategy

-

Frequency of the sampling

-

Methods of sampling (description of sampling techniques)

-

Case definition

See goats

Diagnostic/analytical methods used

-

Vaccination policy

-

Other preventive measures than vaccination in place

-

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

-In case of isolation of Brucella from sheep, the herd of origin is considered as infected and total depopulation is implemented.

Notification system in place

-Ovine brucellosis is a notifiable disease under animal health legislation. Notification of abortion is compulsory. Aborting animals and abortion material are sampled for serological and bacteriological

examinations.

Results of the investigation

-

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

The annual herd prevalence rate, which was 2.8% in 1994, it has been 0% since 2003. The annual herd incidence rate, which was 0.98% in 1991, it has been 0% since 2003.
Report on ovine and caprine brucellosis surveillance in 2009: favourable epidemiological context but surveillance improvements needed
No outbreak of ovine and caprine brucellosis has been reported in France since the end of 2003. Vaccination in the whole country was suspended in early 2008. In 2010, 64 départements were officially recognized as disease free by the European Commission. The national surveillance programme is devoted to detecting any reintroduction and to extending this status throughout the whole country. It consists of annual serological surveillance within flocks as well as abortion notification. The implementation of this surveillance is satisfactory as regards serology but insufficient for abortion notification. Positive serological reactions are regularly notified, although none are confirmed after specific investigations. Cross-reactions, well known in brucellosis serology, explain these false positive results which need appropriate management. A programme aiming at improving abortion reporting is still under discussion.
See http://www.afssa.fr/bulletin-epidemiologique/Documents/BEP-mg-BE40.pdf

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

-

Additional information

Additional information can be obtained in the report sent to EC (Health and consumer directorate), dealing with the informations about the diseases targeted in annex E of directive 64/432 of the council and in the report about french surveillance of ovine and caprine brucellosis in officially free french departements. year 2009.

D. B. suis in animal - Pigs - at farm - Clinical investigations

Monitoring system

Sampling strategy

Sampling is done in case of suspicion (abortions)

Frequency of the sampling

-

Methods of sampling (description of sampling techniques)

-

Case definition

-A herd is declared infected when : Brucella is isolated in the herd or serological reactions concern more than 10% of breading animals.

Diagnostic/analytical methods used

-bacteriology/serology

Vaccination policy

-forbidden

Other preventive measures than vaccination in place

- fences to prevent contact with wild boars and hares.

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

In case of positive sample, all the pigs of the holding are slaughtered with special hygiene mesures. If the biovar is "Brucella suis biovar 2", then the meat is not heat treated; otherwise, it must be heat treated.

Notification system in place

-

Results of the investigation

-

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

In 2008, 1 outbreak with "Brucella suis biovar 2" was reported. All the pigs of the holding were slaughtered. This positive case was a free range holding; contamination seems to come from wild boars (uncontroled mating...).

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

-

Additional information

-

Table Brucellosis in other animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Brucella	B. abortus	B. melitensis	B. suis
Hares - wild - unspecified - Surveillance (investigations of the national surveillance nework of game death causes (SAGIR)) [1)]	veterinary laboratories and NRL	Selective sampling		animal sample > organ/tissue		Animal	unknown	5	0	0	5
Pigs - breeding animals - not raised under controlled housing conditions - at farm - Clinical investigations (investigations in pig herds with signs evocative of brucellosis (abortion, orchitis) and confirmed by serology) [2)]	veterinary services and NRL	Suspect sampling		animal sample > organ/tissue		Herd	7	7	0	0	7
Wild boars - wild - from hunting - Surveillance (local investigations) [3)]	veterinary laboratories and NRL	Selective sampling		animal sample > organ/tissue		Animal	unknown	1	0	0	1

	Brucella spp., unspecified
Hares - wild - unspecified - Surveillance (investigations of the national surveillance nework of game death causes (SAGIR)) [1)]	0
Pigs - breeding animals - not raised under controlled housing conditions - at farm - Clinical investigations (investigations in pig herds with signs evocative of brucellosis (abortion, orchitis) and confirmed by serology) [2)]	0
Wild boars - wild - from hunting - Surveillance (local investigations) [3)]	0

Comments:

Table Brucellosis in other animals

Comments:

[1)] brucella suis biovar 2, isolates transmitted for confirmation

[2)] outdoor ranged pigs, brucella suis biovar 2, brucella suis biovar 2, isolates transmitted for confirmation

[3)] brucella suis biovar 2, isolates transmitted for confirmation

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

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

Region	Total number of existing		Officially free herds		Infected herds		Surveillance			Investigations of suspect cases				
	Herds	Animals	Number of herds	%	Number of herds	%	Number of herds tested	Number of animals tested	Number of infected herds	Number of animals tested with serological blood tests	Number of animals positive serologically	Number of animals examined microbio logically	Number of animals positive microbio logically	Number of suspended herds
France	128868	6712310	128539	99.74	0	0	44220	1616531	0	27777	554	243	0	404
Total : [1)]	128868	6712310	128539	99.74	0	0	44220	1616531	0	27777	554	243	0	404

Comments:

[1)] N.A.

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

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance						Investigations of suspect cases								
							Serological tests			Examination of bulk milk			Information about			Epidemiological investigation					
	Herds	Animals	Number of herds	%	Number of herds	%	Number of bovine herds tested	Number of animals tested	Number of infected herds	Number of bovine herds tested	Number of animals or pools tested	Number of infected herds	Number of notified abortions whatever cause	Number of isolations of Brucella infection	Number of abortions due to Brucella abortus	Number of animals tested with serological blood tests	Number of suspended herds	Number of positive animals		Number of animals examined microbio logically	Number of animals positive microbio logically
																		Sero logically	BST		
France	232592	19005674	232520	99.97	0	0	141790	1067867	0	71335	97479	0	61631			1129	77	116	0	63	0
Total : [1)]	232592	19005674	232520	99.97	0	0	141790	1067867	0	71335	97479	0	61631	0	0	1129	77	116	0	63	0

Comments:

[1)] N.A.

2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

A. Yersinia enterocolitica general evaluation

History of the disease and/or infection in the country

-

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

-

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

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

--

Additional information

For information about yersinia in France consult the website (CNR):
http://www.pasteur.fr/ip/easysite/go/03b-00003o-02d/actualites-rapports

2.7.2 Yersiniosis in humans

A. Yersinosis in humans

Reporting system in place for the human cases

-

Case definition

-

Diagnostic/analytical methods used

-

Notification system in place

-

History of the disease and/or infection in the country

-

Results of the investigation

-

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

-

Relevance as zoonotic disease

-

Additional information

-

2.7.3 Yersinia in animals

A. Yersinia enterocolitica in pigs

Monitoring system

Sampling strategy

Animals at farm

-

Animals at slaughter (herd based approach)

--

Methods of sampling (description of sampling techniques)

Animals at farm

-

Animals at slaughter (herd based approach)

-

Case definition

Animals at farm

-

Animals at slaughter (herd based approach)

-

Vaccination policy

-

Other preventive measures than vaccination in place

-

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

-

Notification system in place

-

Results of the investigation

-

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

-

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

-

Additional information

-

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

Datas of human cases available since 1876 are avalaible at http://monsite.wanadoo.fr/cnrdestrichinella/

No domestic cycle since 1983 for horses (1998) and pigs (1983)

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

Since 1998, no outbreak of trichinosis following consumption of horse meat was reported in France. Since 1983, no case of trichinosis due to consumption of pig meat was reported in France.
No domestic cycle. The few human cases since 1998 comes from consumption of wild boars. Messages of prevention are given to the hunters.
In 2008, 3 cases due to T. britovi from wild boar.
The recent human trichinellosis outbreaks caused by
wild boar meat consumption and previous studies revealing positives cases in wildlife (figure 2) show that the
sylvatic cycle still occurs
In accordance with the European regulation 2075/2005, a wildlife survey assessing the risk of transmission from wild species to pigs is required to be granted Trichinella free status, this survey has been conducte between august 2009 and august 2010 on foxes and wild boars. The aim of this study is to provide epidemiological data on the
circulation of the parasite in wildlife in regions with large domestic pig populations.

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

Since last cases in 1998, not imported humans cases are due to consumption of meat from wild fauna (Local Wild boars detection of T. britovi and T spiralis, imported meat of bear in 2005 detection of T. nativa). No case from horse since 1998.
Those results, together with that of the surveillance of both indoor and outdoor domestic pigs and of marketed wild boars, are in favor of a
negligible risk of trichinellosis in those regions. Previous studies and human cases have shown that Trichinella circulates in wildlife in France. However this circulation seems to be localised to the south of France and to mountainous areas where pig production is minor.

Recent actions taken to control the zoonoses

Animals of the species sensitive to Trichinella, in particular domestic Solipeds, pigs and wild boars, in a systematic way or by survey, have to be tested for larvae of Trichinella before marketing meat.
In order to reinforce the monitoring for Trichinella in wild boar carcasses, a campaign was carried out in collaboration with the National Federation of Hunters (http://www.chasseurdefrance.com/) to increase hunters' awareness of the risk of trichinosis related to consumption of wild boar meat not tested. The hunters are obliged to test every wild boar put on the market (direct or indirect marketing) or given for collective meal Diagnosis for Trichinella must be performed by peptic digestion in an approved laboratory.
For private consumption they are aware of the risk of wild boar rear meat non tested and encouraged to

make trichinella tests on their own, in approved laboratory. The approved laboratories are involved in a ring-test performed by the NRL for Trichinella (Afssa-lerpaz). Control measures by freezing (-25°C/10 days) or cooking (80°C/10 min) meat were also mentioned. Each year The national hunters association conducts survey on wild boars. Some additional surveillance and inspection has been settled in France (see part trichinella in pigs)

Suggestions to the Community for the actions to be taken

Surveillance of wild boar and outdoor pig farms.

Additional information

For additional informations about human cases and french network of surveillance , consult national reference laboratory for human trichinellosis
http://monsite.wanadoo.fr/cnrdestrichinella/
and especially the updated report.
For animal side, consult, the specific page about trichinellosis on http://www.afssa.fr/index.htm
http://www.afssa.fr/Documents/SANT-Fi-TRI.pdf
http://www.afssa.fr/Documents/MIC-Fi-Trichinella.pdf

2.8.2 Trichinellosis in humans

A. Trichinellosis in humans

Reporting system in place for the human cases

-

Case definition

-

Diagnostic/analytical methods used

-

Notification system in place

--

History of the disease and/or infection in the country

-

Results of the investigation

-

Description of the positive cases detected during the reporting year

-

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

-

Relevance as zoonotic disease

-

Additional information

See Trichinellosis, general evaluation and consult the website of NRL, for updated information and french surveillance system
http://monsite.wanadoo.fr/cnrdestrichinella/

2.8.3 Trichinella in animals

A. Trichinella in horses

Monitoring system

Sampling strategy

Sampling is performed systematically at the slaughterhouse by competent authorities.

Frequency of the sampling

100%

Type of specimen taken

Muscle from tongue or diaphragm

Methods of sampling (description of sampling techniques)

A sample of 10 g of muscle is analysed. Another sample (10 g) is frozen (18°C) and stored for 8 weeks.

Case definition

A sample is considered positive when at least one larvae of Trichinella have been identified and confirmed by Anses (French agency for food, environmental and occupational health and safety ex AFSSA, National Reference Laboratory for Foodborne Parasites)

Diagnostic/analytical methods used

EU Reference method of detection: Magnetic stirrer method for pooled sample digestion.

Results of the investigation including the origin of the positive animals

--

Control program/mechanisms

The control program/strategies in place

Each routine laboratory participates to a national ring trial (two session per year) organised by the National Reference Laboratory for Food borne parasites (NRL Parasites). Analysts also participate to two-days of theorical and pratical formation also organised by the NRL Parasites.
Routine laboratories receive an agreement for Trichinella diagnosis by the Ministry of Agriculture and food (DGAL) every year.

Recent actions taken to control the zoonoses

A quality assurance system has been developed since 1999 including analysts training and since 2003 organisation of national ring trials. (See above paragraph).

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

Positive carcasses are destroyed. A veterinary investigation is also carried on to identify the origin of the positive animal (country, area, breeding conditions, epidemiological data within the area).

Notification system in place

-

Monitoring system

Sampling strategy

For categories of holdings officially recognised Trichinella-free

not relevant

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

No positive horse for Trichinella since 5 years.
(2001: one positive horse coming from Serbia; 1999: one positive horse coming from Poland).

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

-

Additional information

Development of a quality control system has been set up in France since 1998. At first, theorical and practical trainings for analysts were organised by the French National Reference Laboratory. Then (in 2003) ring trials were initiated with two sessions per year for each routine diagnostic laboratory.
The sensitivity of larvae detection increased significantly for all routine laboratories (a total of 72 labs in France) and reach to date an average of 80% of larvae detection.
See for details: Use of proficiency samples to assess diagnostic laboratories in France performing a Trichinella digestion assay. Vallée I, Macé P, Forbes L, Scandrett B, Durand B, Gajadhar A and Boireau P. Journal of Food Protection, vol 70 (7) 2007, 1685-1690

B. Trichinella in pigs

Number of officially recognised Trichinella-free holdings

No Trichinella-free holdings has been recognised in France for the moment. That's why we are still testing 1/1000 of fattenings pigs. France wishes to set up this categorization system for these holdings.

Categories of holdings officially recognised Trichinella-free

This categorisation system has not been retained in France for the moment, but France wishes to set up this categorization system for these holdings. A national survey has been conducted between august 2009 and august 2010 on foxes and wild boars to evaluate the risk see table for the results).

Officially recognised regions with negligible Trichinella risk

No region with negligible Trichinella risk has been recognised in France.

Monitoring system

Sampling strategy

General

Systematic sampling (outdoor pigs and breeding pigs). In the "Food Chain Information" ("ICA") system, received by the slaughterhouse operator, the information about outdoor farm is mentionned as a relevant information.

For Trichinella free holdings

All breeding pigs are tested.

For categories of holdings officially recognised Trichinella-free

not relevant

For regions with negligible Trichinella risk

not relevant

Frequency of the sampling

General

Systematic (outdoor pigs and breeding pigs). All pork from outdoor farms are tested.

For Trichinella free holdings

All breeding pigs are tested

For categories of holdings officially recognised Trichinella-free

Not relevant

For regions with negligible Trichinella risk

Not relevant

Type of specimen taken

General

Muscle (diaphragm) (in accordance with regulation 2075/2005)

For Trichinella free holdings

Not relevant

For categories of holdings officially recognised Trichinella-free

–

For regions with negligible Trichinella risk

–

Methods of sampling (description of sampling techniques)

General

Manual technique with scalpels and tongs/pliers.

For Trichinella free holdings

Manual technique with scalpels and tongs.

For categories of holdings officially recognised Trichinella-free

–

For regions with negligible Trichinella risk

–

Case definition

General

A sample is considered positive when at least one larvae of Trichinella have been identified and confirmed as positive by AFSSA (National Reference laboratory for foodborne parasites, French food safety agency)

For Trichinella free holdings

Not relevant

For categories of holdings officially recognised Trichinella-free

Not relevant

For regions with negligible Trichinella risk

Not relevant

Diagnostic/analytical methods used

General

EU Reference method of detection according to Commission Regulation (2075/2005): Magnetic stirrer method for pooled sample digestion.

For Trichinella free holdings

-

For categories of holdings officially recognised Trichinella-free

–

For regions with negligible Trichinella risk

–

Preventive measures in place

Carcasses are consigned until analysis results are obtained.

Control program/mechanisms

The control program/strategies in place

Each routine laboratory participates to a national ring trial (two sessions per year) organised by the National Reference Laboratory for Food borne parasites (NRL Parasites). Analysts also participate to a two-days theorical and practical training also organised by the NRL for Parasites.

Routine laboratories receive an agreement for Trichinella diagnosis by the Ministry of Food and Agriculture (General directorate for food) every year.
A surveillance control program is in force regarding wild game :
- all wild boars which are admitted in game-handling establishments are tested
- all wild boars which are directly supplied to a local retail establishments directly supplying the final consumer
- all farmed wild boars are tested
- a national surveillance plan for wild boars is currently developped

- Instruction for wild boar meat and oudoor pigs farm has been settled. (see "recent actions taken")

Summary results of the inspections of Trichinella-free holdings including information on farmer compliance

The trichinella free holdings inspection have not started yet.

Recent actions taken to control the zoonoses

A quality assurance system has been developed since 1999 including analysts training and since 2003 organisation of national ring trials.
- The control, inspection and analysis of wild boar is compulsory for collective meal (association, hunters..) and marketing. This regulation is included in post mortem inspection of game as recommended in food law Reg.853-2004. Awareness campaign an training of meat inspection is made with hunters on this specific issue.
- Survey in wild fauna in five pilots departements (foxes and wild boar) near pig farms. The objective is to have an idea of parasites circulation near pig holding in accordance with reg.2075/2005. This survey is conducted from 2009 to 2010 (hunting season) in five pilots departements namely Aveyron, Finistère, Ille et Vilaine, Nord, Pyrénées Atlantique. These departements have been chosen according their pork production (free range in particular). Results are avalaible in the prevalence specific table.

Suggestions to the Community for the actions to be taken

- a solution should be found for live pigs circulating between member states before slaughtering, in order to know whether these animals have to be tested or not at the slaughterhouse of destination.
- the freezing treatment of the carcasses is defined in regulation 2075/2005 as an alternative to compulsory analysis, BUT this process is not able to destroy all the trichinella species in a contaminated meat.

- Survey in wild fauna to evaluate potential risk for porks and establish a critic limit criteria for prevalence in wild fauna

Validation of reference serological method for free zone or negligible risk zone.

Measures in case of the positive findings or single cases

When a positive result is found in a pooled sample analysis, individual digestions are performed to identify the positive animal.
Epidemiological studies are also carried on in the breeding and area where the positive animal is originated. These epidemiological studies concern other animals within the breeding and wildlife.

The contingency plan in place

The carcass is quarantined and destroyed. The holding of origin is put under sanitary surveillance. Epidemiologic investigation is conducted.

Notification system in place

–

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

Pigs raised in free-range system where found positive for Trichinella britovi in 2004 in Corsica Epidemiological investigations were performed and a fox was detected as positive for T britovi in the same area. In 2007, T. spiralis was found in an indoor pig farm of département "Finistère" (Brittany). In 2008, T. britovi was found in outdoor-pigs farm in département Alpes-Maritimes. More recently, in february 2010, a pool of 3 outdoors pigs was detected positive for T. britovi in Corsica at 5 kms from the first foci (2004). An epidemiological investigations based on serology will be performed on dogs from the area concerned.

Fattening pigs raised under controlled housing conditions in integrated production system

-

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

-

Breeding sows and boars

-

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

No positive pigs has been identified in 2009

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

No human infections due to pork meat controlled in french routine laboratory

Additional information

Development of a quality control system has been set up in France since 1998. At first, theorical and practical trainings for analysts were organised by the French National Reference Laboratory. Then (in 2003) ring trials were initiated with two sessions per year for each routine diagnostic laboratory.
The sensitivity of larvae detection increased significantly for all routine laboratories (a total of 72 labs in France) and reach to date an average of 80% of larvae detection.

For reference about meat inspection, consult instruction DGAL/SDSSA/N2009-8267 (internet).

See for details: Use of proficiency samples to assess diagnostic laboratories in France performing a Trichinella digestion assay. Vallée I, Macé P, Forbes L, Scandrett B, Durand B, Gajadhar A and Boireau P. Journal of Food Protection, vol 70 (7) 2007, 1685-1690

Table Trichinella in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Units tested	Total units positive for Trichinella	T. spiralis	Trichinella spp., unspecified	T. britovi
Pigs - fattening pigs - raised under controlled housing conditions - at slaughterhouse - Surveillance	veterinary services	Objective sampling	Official sampling	animal sample		Animal	74640	0			
Pigs - fattening pigs - not raised under controlled housing conditions - at slaughterhouse - Surveillance [1)]	veterinary services	Objective sampling	Official sampling	animal sample		Animal	352510	4	0		4
Pigs - breeding animals [2)]	veterinary services	Objective sampling	Official sampling	animal sample		Animal	262816	0			
Solipeds, domestic - horses - at slaughterhouse - Surveillance	veterinary services	Objective sampling	Official sampling	animal sample		Animal	16623	0			
Wild boars - farmed - Surveillance	veterinary services	Objective sampling	Official sampling	animal sample		Animal	3553	0			
Wild boars - wild - Surveillance [3)]	veterinary services	Selective sampling	Not applicable	animal sample		Animal	33323	2	0		2
Foxes - Monitoring [4)]	veterinary services	Selective sampling	Not applicable	animal sample		Animal	0	0			

Comments:

[1)] Positive pigs originated from Corsica island

[2)] animals sampled at slaughterhouse

[3)] animals sampled by hunters

[4)] animals sampled by hunters

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

The presence of E. multilocularis was reported in the fox since 1970 in several French departments of the North-East of France: Meurthe-et-Moselle, Meuse, Bas-Rhin, Haut-Rhin, Vosges, Haute-Saone and Doubs. Since this date, the presence of the parasite was reported in several departments. In 1988, the distribution of the parasite in the final host covered a great north-eastern quarter of France as well as the Massif Central area.

A national survey in 1989 assessed the presence of E. granulosus in almost all the country but principally in the south part of France. Since twenty years no data were available to confirm the presence of the parasite.

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

Recent results suggest that E. multilocularis spreads on the French territory as in Europe. Today the parasite was described around Paris (in foxes) and to the west part of France (in foxes and results reported here in coypu). The reasons of this new distribution of the parasite are not clearly elucidated. It can be due to a more active research of the parasite or more probably a real extension of the parasite.

Survey in slaughterhouses in 2009-2010 in the south and in Corsica island have confirmed the presence of E. granulosus in France nowadays. The genotypes G1, G2, G3 of E. granulosus sensu stricto in the south (sheep and cattle) and G6-7 of E. canadensis in Corsica (pigs and results reported here in wild boars) were described by the first molecular characterization in France.

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

For ten years, the population of red foxes has been constantly increasing in France as in Europe. The progression of foxes in urban zones is currently observed. Foxes live now in contact with population and their presence was reported in different cities.

Concerning E. granulosus, the confirmation of the today presence of the parasite in the country leads up to organize a future national survey in 2012.

Recent actions taken to control the zoonoses

The infection rate in foxes by E. multilocularis is currently assessed in 43 French departments and specific studies are carried out on urban foxes by evaluation of anthelmintic treatment or culling. Moreover, domestic dogs were checked for parasite in 2008 in department of Meuse and 2010 in Haute-Saône. An information leaflet presenting preventive measures in general population was devised by the public health authorities and disseminate in the decentralised services of the ministries in charge of health and agriculture.

The recent confirmation of the presence of E. granulosus will lead up to have better information in the slaughterhouses.

Suggestions to the Community for the actions to be taken

-

Additional information

Interesting information about the study on the foxes can be obtained on the website of "Entente Interdépartmentale de Lutte contre les Zoonoses" (ELIZ) at http://www.e-l-i-z.com/home/

2.9.2 Echinococcosis in humans

A. Echinococcus spp. in humans

Reporting system in place for the human cases

–

Case definition

-

Diagnostic/analytical methods used

-

Notification system in place

-

History of the disease and/or infection in the country

-

Results of the investigation

-

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

-

Relevance as zoonotic disease

-

Additional information

A summary of the humans cases until 2005, and details about the net of surveillance are avalaible at http://www.invs.sante.fr/beh/2006/27_28/beh_27_28_2006.pdf

2.9.3 Echinococcus in animals

Table Echinococcus in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis
Dogs	Anses LRFSN	Objective sampling		animal sample > faeces		Animal		21	0		
Foxes - Monitoring	Anses LRFSN and ERZ	Objective sampling		animal sample > faeces		Animal	Meurthe-et-Moselle	232	37		37
Badgers - wild - Surveillance [1)]	Anses LRFSN	Convenience sampling		animal sample		Animal	Vaucluse	1	0		
Coypu (catching animals) [2)]	Anses LRFSN	Selective sampling		animal sample > organ/tissue		Animal	Loire-Atlantique	11	0		
Coypu (catching animals) [3)]	Anses LRFSN	Selective sampling		animal sample > organ/tissue		Animal	Maine-et-Loire	4	0		
Coypu (catching animals) [4)]	Anses LRFSN	Selective sampling		animal sample > organ/tissue		Animal	Calvados	21	2		2
Coypu (catching animals) [5)]	Anses LRFSN	Selective sampling		animal sample > organ/tissue		Animal	Côtes-d'Armor	10	0		
Coypu (catching animals) [6)]	Anses LRFSN	Selective sampling		animal sample > organ/tissue		Animal	Manche	29	1		1
Coypu (catching animals) [7)]	Anses LRFSN	Selective sampling		animal sample > organ/tissue		Animal	Mayenne	13	0		
Coypu (catching animals) [8)]	Anses LRFSN	Selective sampling		animal sample > organ/tissue		Animal	Ille-et-Vilaine	15	0		

Table Echinococcus in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis
Coypu (catching animals) [9]	Anses LRFSN	Selective sampling		animal sample > organ/tissue		Animal	Finistère	24	0		
Coypu - Monitoring [10]	Anses LRFSN	Selective sampling		animal sample > organ/tissue		Animal	Vendée	1	0		
Coypu - Monitoring (catching animals) [11]	Anses LRFSN	Selective sampling		animal sample > organ/tissue		Animal	Morbihan	4	0		
Coypu - Monitoring (catching animals) [12]	Anses LRFSN	Selective sampling		animal sample > organ/tissue		Animal	Orne	21	1		1
Coypu - Surveillance [13]	Anses LRFSN	Convenience sampling		animal sample > organ/tissue		Animal	Meurthe-et-Moselle	1	1		1
Foxes - wild - from hunting [14]	Anses LRFSN and ERZ	Objective sampling		animal sample > organ/tissue		Animal	Meurthe-et-Moselle	170	58		58
Foxes - wild - from hunting [15]	Anses LRFSN and ERZ	Objective sampling		environmental sample		Animal		9	2		2
Foxes - wild - from hunting - Monitoring [16]	Anses LRFSN and ERZ	Objective sampling		animal sample > organ/tissue		Animal	Oise	8	1		1
Foxes - wild - from hunting - Monitoring [17]	Anses LRFSN and ERZ	Objective sampling		animal sample > organ/tissue		Animal	Yonne	72	1		1
Foxes - wild - from hunting - Monitoring [18]	Anses LRFSN and ERZ	Objective sampling		animal sample > organ/tissue		Animal	Côte-d'Or	9	1		1
Foxes - wild - from hunting - Monitoring [19]	Anses LRFSN and ERZ	Objective sampling		animal sample > organ/tissue		Animal	Cher	5	0		
Foxes - wild - from hunting - Monitoring [20]	Anses LRFSN and ERZ	Objective sampling		animal sample > organ/tissue		Animal	Loire	33	1		1

Table Echinococcus in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis
Foxes - wild - from hunting - Monitoring [21)]	Anses LRFSN and ERZ	Objective sampling		animal sample > organ/tissue		Animal	Essonne	30	6		6
Foxes - wild - from hunting - Monitoring [22)]	Anses LRFSN and ERZ	Objective sampling		animal sample > organ/tissue		Animal	Loiret	19	0		
Foxes - wild - from hunting - Monitoring [23)]	Anses LRFSN and ERZ	Objective sampling		animal sample > organ/tissue		Animal	Morbihan	73	0		
Foxes - wild - from hunting - Monitoring [24)]	Anses LRFSN and ERZ	Objective sampling		animal sample > organ/tissue		Animal	Indre	5	0		
Mouflons - wild - Surveillance [25)]	Anses LRFSN	Convenience sampling		animal sample > organ/tissue		Animal	Meurthe-et-Moselle	1	0		
Voles - wild - Surveillance [26)]	Anses LRFSN	Convenience sampling		animal sample > organ/tissue		Animal	Puy-de-Dôme	4	0		
Wild boars - wild - Surveillance [27)]	Anses LRFSN	Convenience sampling		animal sample > organ/tissue		Animal		4	4	4	

	Echinococcus spp., unspecified
Dogs	
Foxes - Monitoring	
Badgers - wild - Surveillance [1)]	
Coypu (catching animals) [2)]	

Table Echinococcus in animals

	Echinococcus spp., unspecified
Coypu (catching animals) [3]	
Coypu (catching animals) [4]	
Coypu (catching animals) [5]	
Coypu (catching animals) [6]	
Coypu (catching animals) [7]	
Coypu (catching animals) [8]	
Coypu (catching animals) [9]	
Coypu - Monitoring [10]	
Coypu - Monitoring (catching animals) [11]	
Coypu - Monitoring (catching animals) [12]	
Coypu - Surveillance [13]	
Foxes - wild - from hunting [14]	
Foxes - wild - from hunting [15]	
Foxes - wild - from hunting - Monitoring [16]	
Foxes - wild - from hunting - Monitoring [17]	
Foxes - wild - from hunting - Monitoring [18]	
Foxes - wild - from hunting - Monitoring [19]	
Foxes - wild - from hunting - Monitoring [20]	
Foxes - wild - from hunting - Monitoring [21]	

Table Echinococcus in animals

	Echinococcus spp., unspecified
Foxes - wild - from hunting - Monitoring [22)]	
Foxes - wild - from hunting - Monitoring [23)]	
Foxes - wild - from hunting - Monitoring [24)]	
Mouflons - wild - Surveillance [25)]	
Voles - wild - Surveillance [26)]	
Wild boars - wild - Surveillance [27)]	

Comments:

[1)] sample type : liver

[2)] sample type : liver

[3)] sample type : liver

[4)] sample type : liver

[5)] sample type : liver

[6)] sample type : liver

[7)] sample type : liver

[8)] sample type : liver

[9)] sample type : liver

[10)] sample type : liver

[11)] sample type : liver

Table Echinococcus in animals

Comments:

[12)] sample type : liver

[13)] sample type : liver

[14)] sample type : intestin

[15)] national program, sample type : worm

[16)] sample type : intestin

[17)] sample type : intestin

[18)] sample type : intestin

[19)] sample type : intestin

[20)] sample type : intestin

[21)] sample type : intestin

[22)] sample type : intestin

[23)] ample type : intestin

[24)] sample type : intestin

[25)] sample type : liver

[26)] sample type : liver

[27)] sample type : liver, sample collected in Corsica, E. granulosus genotype G6-7genotype

Footnote:

The infection rate by E. multilocularis is currently assessed in some French regions, not at national level.

2.10 TOXOPLASMOSIS

2.10.1 General evaluation of the national situation

A. Toxoplasmosis general evaluation

History of the disease and/or infection in the country

See invs datas on website ("add. information")

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

The data collected in 2011 were issued from local studies, without random sampling plan

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

http://www.afssa.fr/Documents/MIC-Ra-Toxoplasmose.pdf

Recent actions taken to control the zoonoses

2 official monitoring plans: contamination by Toxoplasma gondii (in accordance with directive 2003/99/EC) :
- sheep meat(2007)
- bovine meat (2009)

Awareness campaign on sensitive population (especially pregnant women)

Suggestions to the Community for the actions to be taken

Surveillance of imported horse meat from Canada, Argentina, Brasil, Mexico, Uruguay, Australia

Additional information

http://www.femmeetenfant.net/pages/fichiers/congres/JourneePerinat07/14h_1CNRTOXOpr%E9sentation.pdf
CNR toxoplasmose:
http://www.chu-reims.fr/professionnels/cnr-toxoplasmose-1/

http://www.invs.sante.fr/beh/2008/14_15/index.htm

http://www.invs.sante.fr/publications/2007/toxoplasmose/toxoplasmose.pdf

Specific study:

http://www.afssa.fr/Documents/MIC-Fi-Toxoplasma.pdf

2.10.2 Toxoplasmosis in humans

A. Toxoplasmosis in humans

Reporting system in place for the human cases

-

Case definition

-

Diagnostic/analytical methods used

-

Notification system in place

--

History of the disease and/or infection in the country

-

Results of the investigation

-

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

-

Relevance as zoonotic disease

-

Additional information

http://www.femmeetenfant.net/pages/fichiers/congres/JourneePerinat07/14h_1CNRTOXOpr%E9sentation.pdf

http://www.chu-reims.fr/professionnels/cnr-toxoplasmose-1/

2.10.3 Toxoplasma in animals

Table Toxoplasma in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Analytical Method	Sampling unit	Units tested	Total units positive for Toxoplasma	T. gondii	Toxoplasma spp., unspecified
Sheep - at farm - Clinical investigations [1)]	NRL	Convenience sampling		animal sample > blood		Modified agglutination test (MAT)	Animal	223	170	170	
Dogs - Clinical investigations [2)]	NRL	Convenience sampling		animal sample > blood		Modified agglutination test (MAT)	Animal	281	183	183	
Coypu - Surveillance [3)]	NRL	Convenience sampling		animal sample > blood		Modified agglutination test (MAT)	Animal	546	148	148	
Muskrats - wild - Surveillance [4)]	NRL	Convenience sampling		animal sample > blood		Modified agglutination test (MAT)	Animal	193	60	60	

Comments:

[1)] local studies

[2)] animals sampled in Corsica, local study

[3)] animals sampled west of France, local studies

[4)] animals sampled west of France, local studies

Footnote:

The data collected in 2011 were issued from local studies, without random sampling plan

2.11 RABIES

2.11.1 General evaluation of the national situation

A. Rabies general evaluation

History of the disease and/or infection in the country

In contrast to the type that prevailed at the start of the last century, which was maintained in dogs, the type of rabies that has occurred in France during the second part of the twentieth century has been maintained essentially in red foxes. The vulpine rabies reappeared in France in 1968 spreading from an outbreak, which is thought to have started in 1939-1940 at the Polish/Russian border and advanced westwards.

From 1968 to 1989, the front of the vulpine rabies included the north-eastern quarter of France (approximately 1000 to 2500 cases were annually diagnosed during this period, including domestic animals and foxes). During this period, no case of indigenous human rabies were reported (the last case was reported in 1924). The success of the programmes of oral vaccination of the foxes against rabies, performed with the collaboration of the veterinary services, of Afssa Nancy, resulted in the eradication of the rabies in red foxes. On April 30, 2001, France was recognised officially free of rabies according to the criteria of OIE (which excludes the European Bat Lyssavirus).

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

Taking account of the importance of exotic tourism, North-South and East-West exchanges, and the growing passion for the pets, the entry of the canine rabies is particularly to fear at the time of the holidays. It relates to the illegally imported infected dogs.

In 1989, it was recognised that France bats may carry a rabies-like virus, European Bat Lyssavirus 1 (EBL1). Since 1999 except dogs imported clandestinely, only bats have been diagnosed rabid in France (1998 one cat, one fox). However,cases of rabies with EBLV-1 identification were recorded in two cats (one in 2003 in Vannes, Morbihan département, the other one in 2007 in Vendée département. The emergence of the disease in bats, whereas it disappeared in the foxes, could pose new problems of public health.

For the travellers, the rabies can be contracted abroad in a country where canine rabies is maintained. According to the data of National Reference Centre (Pasteur Institute, Paris), 20 imported human cases of rabies occurred in France between 1970 and 2003. The last imported case was reported in October 2003 in a 3 year old child going back from Gabon.

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

The risk of exposure for humans is very low. Since EBL is found in the French bat population, people being in contact with bats should be aware of the risk. Concerning the risk of introduction of canine rabies from abroad, travellers should be dissuaded from bringing back animals from endemic areas into France and the EU. Large prevention campaigns are performed by the Ministry of Agriculture in summer to inform the travellers of the risk of entry of the urban dog-mediated rabies in France and in EU.

Recent actions taken to control the zoonoses

The risk of transmission of the bat rabies to the man is regarded as very low. The bats are protected in France. It is thus recommended not to approach them, and capture, transport, sale, purchase or destruction of bats are prohibited. Information campaigns on the bat rabies were carried out in the schools, urgency medical centres, antirabies treatment centres, the decentralised services of the youth and sports Ministry. These campaigns aim to make public (in particular young people) more aware of the danger in touching a bat or handling a sick, injured or died animal. It was in addition recommended to perform preventive rabies vaccination and a specific serological follow-up of the bat handlers (approximately 300 in France).

A large prevention campaign on the topic "Do not bring back the rabies among your memories of holidays !" was performed in 2004 and 2005 by the Ministry of Agriculture to inform the travellers of the risk of entry of the urban dog-mediated rabies in France and in UE. Posters and leaflets were widely disseminated in the veterinary clinics, in the local vet services, at the border posts, in the railway stations and the airports. Travellers are dissuaded from bringing back animals with them (or at least, if they must, then sternly urged to conform to the health regulations imposed) and encouraged to avoid a contact with any domestic carnivores, particularly strays.

Preventive rabies vaccination is recommended for travellers who stay in the high-risk countries (in Asia, Africa, the Middle East, South America).

Suggestions to the Community for the actions to be taken

The UE is actually free from canine rabies and whe should take all appropriate steps to keep it so. More information campaigns to travellers and to sea and air transport companies are needed. In accordance with CE 998/2003, stricter controls on the community borders (in particular at the borders with countries not free from dog-mediated rabies) should be implemented to fight against animal trafficking. UE could also support the efforts of the Maghreb countries in their fight against this serious enzootic.

Additional information

For humans cases consult invs and CNR pasteur websites

For animal topic:

2.11.2 Rabies in humans

A. Rabies in humans

Reporting system in place for the human cases

-

Case definition

-

Diagnostic/analytical methods used

-

Notification system in place

-

History of the disease and/or infection in the country

-

Results of the investigation

-

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

-

Relevance as zoonotic disease

-

Additional information

Useful information about rabies in human are available at:

http://www.invs.sante.fr/surveillance/rage/default.htm

http://www.pasteur.fr/ip/easysite/go/03b-000030-06f/actualites-rapports

2.11.3 Lyssavirus (rabies) in animals

A. Rabies in dogs

Monitoring system

Sampling strategy

-

Frequency of the sampling

-

Methods of sampling (description of sampling techniques)

-

Case definition

-

Vaccination policy

-

Other preventive measures than vaccination in place

-

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

-

Notification system in place

-

Results of the investigation

-

Investigations of the human contacts with positive cases

-

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

Over 8,08 millions of dogs, 3 were positive in 2008, among those 2 were imported cases (Maroco and Gambia) and one got infected in contact with a dog in France, himself in contact with a dog infected in Maroco.

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

source of infection)

-

Additional information

NRL website:
http://www.afssa.fr/index.htm
about Nancy Laboratory

Table Rabies in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Rabies virus (RABV)	EBLV-1
1) Cattle (bovine animals)	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		6	0		
2) Sheep	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		0	0		
3) Goats	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		3	0		
4) Pigs	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		1	0		
5) Solipeds, domestic	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		9	0		
6) Bats - wild - Monitoring	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		311	0		
7) Foxes - wild - Monitoring	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		52	0		
8) Badgers	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		1	0		

Table Rabies in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Rabies virus (RABV)	EBLV-1
9) Bats - wild	Institut Pasteur and ANSES Nancy	Unspecified		animal sample		Animal	Meurthe-et-Moselle	2	2		2
10) Bats - wild - Monitoring	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal	Nièvre	1	1		1
11) Bats - wild - Monitoring	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal	Cher	1	1		1
12) Bats - wild - Monitoring	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal	Meuse	2	2		2
13) Cats - pet animals	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		576	0		
14) Deer - wild - roe deer	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		1	0		
15) Dogs - pet animals	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		640	0		
16) Dogs - pet animals	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal	Vendée	1	1	1	
17) Ferrets	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		23	0		

Table Rabies in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Rabies virus (RABV)	EBLV-1
18) Foxes - wild	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		52	0		
19) Marten - wild	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		5	0		
20) Mice	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		2	0		
21) Monkeys	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		2	0		
22) Polecats	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		1	0		
23) Rats	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		9	0		
24) Squirrels	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		10	0		
25) Weasel	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		1	0		
26) Wild boars	Institut Pasteur and ANSES Nancy	Unspecified		animal sample > brain		Animal		3	0		

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Cattle (bovine animals) [1)]		
Sheep [2)]		
Goats [3)]		
Pigs [4)]		
Solipeds, domestic [5)]		
Bats - wild - Monitoring [6)]		
Foxes - wild - Monitoring [7)]		
Badgers [8)]		
Bats - wild [9)]		
Bats - wild - Monitoring [10)]		
Bats - wild - Monitoring [11)]		
Bats - wild - Monitoring [12)]		
Cats - pet animals [13)]		
Deer - wild - roe deer [14)]		
Dogs - pet animals [15)]		
Dogs - pet animals [16)]		
Ferrets [17)]		
Foxes - wild [18)]		
Marten - wild [19)]		

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Mice [20)]		
Monkeys [21)]		
Polecats [22)]		
Rats [23)]		
Squirrels [24)]		
Weasel [25)]		
Wild boars [26)]		

Comments:

[1)] passive surveillance (suspect sampling or animal found dead)

[2)] passive surveillance (suspect sampling or animal found dead)

[3)] passive surveillance (suspect sampling or animal found dead)

[4)] passive surveillance (suspect sampling or animal found dead)

[5)] passive surveillance (suspect sampling or animal found dead)

[6)] passive surveillance (suspect sampling or animal found dead) other regions

[7)] national passive surveillance (suspect sampling or animal found dead)

[8)] national passive surveillance (suspect sampling or animal found dead)

[9)] precisions about the localisation of positive casespassive surveillance (suspect sampling or animal found dead)

[10)] precisions about the localisation of positive casepassive surveillance (suspect sampling or animal found dead)

Table Rabies in animals

Comments:

[11)] precisions about the localisation of positive casepassive surveillance (suspect sampling or animal found dead)

[12)] precisions about the localisation of positive casepassive surveillance (suspect sampling or animal found dead)

[13)] national passive surveillance (suspect sampling or animal found dead)

[14)] national passive surveillance (suspect sampling or animal found dead)

[15)] national (excluding postive case form vendée) passive surveillance (suspect sampling or animal found dead)

[16)] precisions about the localisation of positive case imported animal, passive surveillance (suspect sampling or animal found dead)

[17)] national passive surveillance (suspect sampling or animal found dead)

[18)] national passive surveillance (suspect sampling or animal found dead)

[19)] passive surveillance (suspect sampling or animal found dead)

[20)] national passive surveillance (suspect sampling or animal found dead)

[21)] national passive surveillance (suspect sampling or animal found dead)

[22)] national passive surveillance (suspect sampling or animal found dead)

[23)] national passive surveillance (suspect sampling or animal found dead)

[24)] national passive surveillance (suspect sampling or animal found dead)

[25)] national passive surveillance (suspect sampling or animal found dead)

[26)] national passive surveillance (suspect sampling or animal found dead)

2.12 STAPHYLOCOCCUS INFECTION

2.12.1 General evaluation of the national situation

2.13 Q-FEVER

2.13.1 General evaluation of the national situation

A. Coxiella burnetii (Q-fever) general evaluation

History of the disease and/or infection in the country

Since the end of 90's, all the operators involved in animal health (the animal health governmental autorithy / general directorate for food –CCA-, researchers, breeders, national association, vet, labs, pharmaceutic industries) rallied all together on Q fever, considering both the animal and public health issues related to this infection.

As a consequence, several studies were carried out to improve the knowledge about the epidemiology of the disease and its management.
In 2005, CCA entrusted ACERSA (Association for certification of animal health in farms) to elaborate a control program in herds clinically affected with Q fever. This collegiate control program was distributed in 2008 to vets and breeders under voluntary support.
This control scheme is based on 3 steps:
- identification of clinically infected herds,
- practical and technical methods for the diagnosis,
- actions to be undertaken in these risky herds (cf. specific EFSA's opinion in 2010).
The definition adopted by Acersa to consider a ruminant herd/flock as clinically affected by Q fever has been retained by EFSA as the basis of its report recently published on the development of harmonised schemes for the monitoring and reporting of Q fever in animals in the European Union.
Control measures considered in herds included vaccination (phase I) of renewal animals and implementation of desinfection measures which could avoid further bacterial spreading (collection and destruction of aborted foetus and placenta, hygienic precaution for obstetric operation, effluents management).

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

Human data: In France, human cases of Q-fever are not notifiable. Yet there is a Reference National Centre (CNR Ricketssia, Marseille) which receives samples for first diagnosis or confirmation of diagnosis. In this context, cases detected in the CNR represent only a part of the diagnosed cases in France. The incidence of this bacterial infection in public health is largely underestimated.

The Coxiella burnetii infection can affect a large number of animal species, domestic and wild, including mammals (ruminants, dogs, cats, rabbits, and small rodents), birds and arthropods. The bacteria are shed in milk, urine, faeces and birth products of ruminants. While Q fever is thought to be enzootic, the prevalence rates at animal or herd level are very variable according to several localized surveys. In France, Q fever in ruminants is not a notifiable disease.
However, there is now a National Reference Laboratory (French Food Safety Agency, Sophia-Antipolis)

which conducts some reference activities such as ring trials aiming at testing proficiency of county laboratories or comparing performances of methods (both on serological and molecular methods). Sampling of cattle, sheep or goats is often performed in case of clinical suspicion of Q fever after several abortion within a herd. So far, the data of these investigations are not systematically collected and their treatment is not centralized. For research studies, some flocks can be tested and followed.

In case of human Q-fever cases, an epidemiological investigation can be managed by the local vet services.

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

Investigations have been conducted several times by CCA in livestock farms during human epidemics in close cooperation with the human health authorithy, InVS (Results of these investigations on invs website see part. additional information).
A major human Q fever episode had occurred during the summer of 2002 with 99 cases including 16 hospitalizations. Recently in 2007, during the spring, Q fever affected 12 persons with 4 hospitalizations. Both episodes occurred in suburban areas, and wind dispersion of contaminated aerosols was highly incriminated in transmission. No epidemiological survey demonstrated the link between human cases and dairy products consumption.

http://www.afssa.fr/Documents/SANT-Ra-fievreQ.pdf

Recent actions taken to control the zoonoses

Due to the general context regarding this infection and the persistant lack of knowledge in several areas, the general directorate for food (CCA), has recently put in place a working group of experts, professionals and epidemiologists.
The objectives of this working group:
Awareness campaign, information, training about Q fever diagnosis, management and control program in farms (for vets and farmers especially)
Standardization of the report of series of abortions, financial help to the differential diagnosis of repeated abortions for the three domestic ruminants species (cattle, goat and sheep) ;
Organisation and drawing up of a common disease control plan in close cooperation with health services at local and national level in case of human epidemics.
Continuation of researchs and studies: evaluation of control program in clinically infected herds, evaluation of environmental contamination and of the bacterial shedding dynamics within herds/flocks in different epidemiologic contexts, standardization of diagnosis methods, improvement of the knowledge on circulating strains in humans and animals.
Actions in the field of surveillance are foreseen on a voluntary basis (with financial and technical incentive). Indeed, a regulation related to surveillance or control program do not seem relevant considering the current imperfect knowledge of the disease, the interpretation of diagnosis tools and the efficiency of management program.
A compulsory notification would be highly dissuasive to get informations without prejudice of supervision of the surveillance in the frame of standardized protocols.
Regarding milk and dairy products, as underlined in EFSA's opinion about Q fever, no scientific datas are available to prove that the consumption of such products would be responsible for human’s disease.
The national regulation historically used to set up hygiene requirements for farms commercialising raw milk or dairy products manufactured with raw milk. In the french regulation about Q fever (6th of August 1985), raw milk must come from farm where no case of Q fever has been identified for at least one year.
Following the "food law" EC regulations, the national regulation is in revision. In this framework, the draft project concerning raw milk has received a favourable opinion of AFSSA (29th of June 2009) and do not include specific clauses for Q fever.

Suggestions to the Community for the actions to be taken

Actions at the national level could be implemented at EC level supporting sharing and mutualisation of datas and experiences.
Moreover it appears essential that EU coordinates the actions of MS in research field and encourage the sharing of knowledge.

Additional information

Any information about french network of surveillance can be obtained on invs website:
http://www.invs.sante.fr/publications/2005/snmi/pdf/fievre_q.pdf

Website of the CNR rickettsia:
http://ifr48.timone.univ-mrs.fr/portail2/index.php?option=com_content&task=view&id=12

2.14 CHLAMYDIOSIS

2.14.1 General evaluation of the national situation

2.14.2 Chlamydia/ Chlamydophila in animals

A. Cp. psittaci in animal

Monitoring system

Sampling strategy

Sampling strategies is not organized and not systematic:
1-Veterinary practitioner order for diagnosis (molecular biology and/or isolation)
2-Sanitary controls of SPF hens and turkeys (serology only)
3-Sampling in suspect plants after human cases (molecular biology and/or isolation and/or serology)
4-Sampling in duck and turkey flocks not linked to human contaminations (molecular biology and/or isolation and/or serology)
5-Additional analyses on influenza samples collected in duck flocks.

Frequency of the sampling

Excepted sanitary controls of EOPS hens and turkey flocks, sampling strategies are not organized.

Type of specimen taken

From live animal, conjunctival, pharyngeal and cloacal swabs, as well as blood samples, could be collected.

Methods of sampling (description of sampling techniques)

For pet birds, when possible all birds are submitted to cloacal swabs, when it's not possible, a sampling (about 20% of the birds) is analyzed as well as fecal samples collected in cages.
For poultry birds, 20 animals per flock are most of the time analyzed.
Sera samples are stored at -20°C before analysis. Dry swabs collected for molecular purposes are stored at -80°C before DNA extraction. Swabs put in conservative buffer are stored at -80°C before inoculation into chicken eggs.

Case definition

When strain is isolated or when a positive signal is obtained by PCR from a sample, this one is considered to be positive.
When following the normalized procedure, if sera generate a positive reaction by the complement fixation test, the case is considered as positive.

Diagnostic/analytical methods used

Complement fixation test
Inoculation into chicken eggs
Semi quantitative real time PCR

Vaccination policy

No vaccine is available

Other preventive measures than vaccination in place

Antibiotic treatment is effective in treating the symptoms of chlamydiosis, but does not always eliminate infections in birds.

Control program/mechanisms

The control program/strategies in place

No control program in France

Recent actions taken to control the zoonoses

No recent action taken in France

Suggestions to the Community for the actions to be taken

More studies are needed, particularly on the human aspect, but also at vet level in order to have a better idea ofthe true number of human cases and then, set up programs that will protect humans against this infection.
Isolation and typing of the strains (human and animal) / investigation of the most involved bird species.

Measures in case of the positive findings or single cases

Positive cases have to be notified to the veterinary services for decision of the measure to be taken (complementary analysis, treatment, slaughter).

Notification system in place

Animal disease is notifiable since 2006.

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

In 2005, 2006 and 2007, 17, 15 and 28 cases were respectively reported to French National Public Health Surveillance Centre (InVS) by the National Reference Centre (NRC). The NRC performs a passive surveillance for psittacosis based on received requests for diagnosis.
During this period, several human psittacosis outbreaks - linked to ducks or to psittacines - were investigated by the InVS and the NRC (human aspects), and by Veterinary Services and Afssa (animal aspects). Medical and veterinary epidemiological surveys and serological and/or PCR diagnosis confirmation were carried out. Whenever possible, samples were typed by PCR-RFLP and by MLVA, and animal and human samples were compared.
Few data are available concerning this zoonotic disease. Therefore, considering the potential seriousness of the human disease and the recurrence of epidemic episodes in various professional contexts, a 2-year prospective descriptive study of human psittacosis, coordinated by the InVS, was started in January 2008. The aim of this study is to determine the incidence of hospitalised human cases as well as the frequency of grouped cases and to describe risk exposures for the patients. Additionally, the analysis of the strains isolated from humans and animals and the description of breeding characteristics and working conditions should improve the knowledge of risk factors for animal-to-human transmission. This would allow a reinforcement of prevention and control measures.

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

A. Escherichia coli general evaluation

History of the disease and/or infection in the country

-

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

-

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

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Additional information

-

3.1.2 Antimicrobial resistance in Escherichia coli, non-pathogenic

A. Antimicrobial resistance of E.coli in food

Sampling strategy used in monitoring

Frequency of the sampling

In continuation of the monitoring programme set up on the animals to the slaughterhouse, France has put in place for the third consecutive year the monitoring plan which concerns more specifically certain indicator bacteria (Escherichia coli) isolated from animal foodstuffs.

Type of specimen taken

Meat samples consist of meat cutting poultry (chicken and turkey) with or without skin, and product type escalope or "coast" for pigs, taken from cutting.

Methods of sampling (description of sampling techniques)

Each sample is made up of minimum 40 grams of meat chosen as much as possible randomly, collected with sterile gloves in a sterile bag numbered.

The samples are kept cold (or frozen) quickly transported to the laboratory in charge of isolation. 10 grams of meat sample are diluted and homogenized to 1/10th buffered peptone water and spread on selective media. After isolation, one characteristic strain is kept in microvial in agar conservation until the confirmation of the identification and antimicrobial susceptibility testing.

Procedures for the selection of isolates for antimicrobial testing

The total number of samples taken in food is set at 600 in chains "poultry" and "pigs", distributed equally between species chicken, turkey and pork in order to isolate approximately 400 strains of Escherichia coli, with a minimum of 100 strains per species if possible. So all strains isolated from the national monitoring plan are usually tested.

Methods used for collecting data

Sampling has been organized within 46 French departments in order to be representative of national production tonnage of animals slaughtered, specifically within 36 departments for poultry production, 22 departments for turkey production and 30 departments for pig production. The distribution of samples was determined by department in advance.

Samplings have been collected in cutting by official veterinary services on a full year. The departments that do not have cutting for the productions concerned have been collected samples of meat in one or more slaughterhouses in the department.

Laboratory methodology used for identification of the microbial isolates

Escherichia coli strains have been directly isolated on TBX agar plates or after preenrichment (1 strain per sample meat). Identification is then confirmed by PCR.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Antimicrobial susceptibility of indicator bacteria has been tested by MIC determination, according to standardized methods: broth microdilution susceptibility test by Sensititre method based on CLSI M7-A8

standard.
12 antibiotics are included in the Sensititre plate: Ampicillin, Cefotaxime, Ceftazidime, Chloramphenicol, Ciprofloxacin, Florfenicol, Gentamicin, Nalidixic acid, Streptomycin, Sulfamethoxazole (sulfonamide), Tetracycline, Trimethoprim.

Cut-off values used in testing

Results interpretations have been expressed according to EFSA recommendations, when breakpoints are common with those of the CASFM and EUCAST (when they exist), or according to CA-SFM. In the database of the EUCAST, we took into account the clinical breakpoint for resistance (when they exist) and not the epidemiological cut-off, unless they are common. Strains are resistant if MIC value:
-Ampicillin: >8 µg/ml,
-Cefotaxime: >2 µg/ml,
-Ceftazidime: >8 µg/ml,
-Chloramphenicol: >16 µg/ml,
-Ciprofloxacin: >1 µg/ml,
-Florfenicol: >16 µg/ml,
-Gentamicin: >4 µg/ml,
-Nalidixic acid: >16 µg/ml,
-Streptomycin: >16 µg/ml,
-Sulfamethoxazole (sulfonamide): >256 µg/ml,
-Tetracycline: >8 µg/ml,
-Trimethoprim: >4 µg/ml.

* MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration
** MIC values greater than the highest concentration in the range are presented as one dilution step above the range

Preventive measures in place

E. coli ATCC 25922 have been used as quality control.

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

-

Notification system in place

For antimicrobial resistance issues
Monitoring of antibiotics sales
http://www.anmv.afssa.fr/antibioresistance

Thematic folders: Antibiotics resistance
http://www.afssa.fr/index.htm

Resapath net
http://www.afssa.fr/Documents/LABO-Ra-Resapath2008.pdf

Results of the investigation

-

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

-

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

-

Additional information

The transmitted data are issued from samples collected in 2008. Data on antimicrobial susceptibility testing for 2009 samples will follow later on.

B. Antimicrobial resistance of E.coli in animal

Sampling strategy used in monitoring

Frequency of the sampling

A national monitoring plan is established each year from different animal productions in slaughterhouses to isolate the times indicator bacteria, E. coli and Enterococcus, and Campylobacter from the same samples.

Type of specimen taken

- For poultry production, 2 caecas from the same broiler per batch of broilers.
- For pig production, 1 fecal sample by pig representing a batch of animals from a single source, slaughtered in the same place to the same date.

Methods of sampling (description of sampling techniques)

- For poultry production, each sample consists of 2 caecas from the same broiler taken before the post of evisceration with sterile gloves in a sterile bag.
- For pig production, about 25 grams of faeces are collected in the rectum of a pig with sterile gloves in a sterile bag.

Each sample is identified with the code of the slaughterhouse and the number of the animal with a self-adhesive label affixed to the sterile plastic bag containing the sample.

The samples are kept cold quickly transported to the laboratory in charge of isolation. Upon receipt, samples are diluted to 1/10th peptone glycerol water at 25% and then spread on selective media.

After isolation, one characteristic strain is kept in peptone glycerol -70° C until antimicrobial susceptibility testing.

Procedures for the selection of isolates for antimicrobial testing

All strains isolated from the national monitoring plan are usually tested. But if too many strains are isolated, a random draw is conducted to obtain the desired number of strains.

Methods used for collecting data

Sampling has been organized within French departments in order to be representative of national productions. Samplings are of a permanent monitoring scheme and have been collected by official veterinary services from March to June and from September to December.

- For poultry production, caecal samples from Standard, Label, and Export type productions have been collected from 9 slaughterhouses in 4 regions producing broilers.
- For pig production, fecal samples of pigs have been collected from 10 slaughterhouses in 7 regions producing pigs.

Laboratory methodology used for identification of the microbial isolates

E. coli strains have been directly isolated on MacConkey agar plates. Strains identification was based on standard criteria : glucose, lactose, H2S, gaz, urease, indole, beta-galactosidase, citrate.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Antimicrobial susceptibility of indicator bacteria has been tested by MIC determination, according to standardized methods: broth microdilution susceptibility test by Sensititre method based on CLSI M7-A8 standard.

Twelve antibiotics (and their corresponding family of antibiotics) are included in the Sensititre plate manufactured specifically for testing E. coli strains: Ampicillin (Penicillins), Cefotaxime (Cephalosporins), Ceftazidime (Cephalosporins), Chloramphenicol (Amphenicols), Ciprofloxacin (Fluoroquinolones), Florfenicol (Amphenicols), Gentamicin (Aminoglycosides), Nalidixic acid (Quinolones), Streptomycin

(Aminoglycosides), Sulfamethoxazole (sulfonamides), Tetracycline (Tetracyclines), Trimethoprim.

Cut-off values used in testing

Results interpretations have been expressed according to the EUCAST epidemiological cut-off values. Strains are resistant (in the epidemiological sense, no longer belonging to the wild population) if MIC value:
- Ampicillin: >8 µg/ml,
- Cefotaxime: >0.25 µg/ml,
- Ceftazidime: >0.5 µg/ml,
- Chloramphenicol: >16 µg/ml,
- Ciprofloxacin: >0.03 µg/ml,
- Florfenicol: >16 µg/ml,
- Gentamicin: >2 µg/ml,
- Nalidixic acid: >16 µg/ml,
- Streptomycin: >16 µg/ml,
- Sulfamethoxazole (sulfonamide): >256 µg/ml,
- Tetracycline: >8 µg/ml,
- Trimethoprim: >2 µg/ml.

* MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration
** MIC values greater than the highest concentration in the range are presented as one dilution step above the range

Preventive measures in place

E. coli ATCC 25922 have been used as quality control.

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

-

Results of the investigation

-

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

-

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

-

Additional information

The transmitted data are issued from samples collected in 2009. Data on antimicrobial susceptibility testing for 2010 samples will follow later on.

For antimicrobial resistance issue:
Interesting information about AMR in animals
http://www.afssa.fr/Documents/SANT-Ra-FARM2006.pdf
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Monitoring of antibiotics sales
http://www.anmv.afssa.fr/antibioresistance

Thematic folders: Antibiotics resistance
http://www.afssa.fr/index.htm

Resapath net
http://www.afssa.fr/Documents/LABO-Ra-Resapath2008.pdf
http://www.resapath.anses.fr/SITE_RESAPATH_WEB/uploadfiles/files/Documents/2009%20RESAPATH%20Rapport%20Annuel%20Fr%20[id_doc=157].pdf

Table Antimicrobial susceptibility testing of E. coli in Pigs

Escherichia coli, non-pathogenic	E.coli, non-pathogenic, unspecified	
Isolates out of a monitoring program (yes/no)	yes	
Number of isolates available in the laboratory	184	
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	184	0
Aminoglycosides - Streptomycin	184	105
Amphenicols - Chloramphenicol	184	44
Amphenicols - Florfenicol	184	2
Fluoroquinolones - Ciprofloxacin	184	3
Penicillins - Ampicillin	184	39
Quinolones - Nalidixic acid	184	3
Sulfonamides	184	95
Tetracyclines - Tetracycline	184	136
Trimethoprim	184	83
Fully sensitive	184	34
Resistant to 1 antimicrobial	184	33
Resistant to 2 antimicrobials	184	17
Resistant to 3 antimicrobials	184	21
Resistant to 4 antimicrobials	184	33
Resistant to >4 antimicrobials	184	46
Cephalosporins - Cefotaxime	184	2
Cephalosporins - Ceftazidim	184	2

Table Antimicrobial susceptibility testing of E. coli in Pigs

Footnote:

strains were collected in 2010 (not 2011)

Table Antimicrobial susceptibility testing of E. coli in Gallus gallus (fowl)

Escherichia coli, non-pathogenic	E.coli, non-pathogenic, unspecified	
Isolates out of a monitoring program (yes/no)	yes	
Number of isolates available in the laboratory	192	
Antimicrobials:	N	n
Aminoglycosides - Gentamicin	192	2
Aminoglycosides - Streptomycin	192	96
Amphenicols - Chloramphenicol	192	12
Amphenicols - Florfenicol	192	0
Fluoroquinolones - Ciprofloxacin	192	59
Penicillins - Ampicillin	192	109
Quinolones - Nalidixic acid	192	59
Sulfonamides	192	107
Tetracyclines - Tetracycline	192	156
Trimethoprim	192	86
Fully sensitive	192	15
Resistant to 1 antimicrobial	192	31
Resistant to 2 antimicrobials	192	22
Resistant to 3 antimicrobials	192	17
Resistant to 4 antimicrobials	192	29
Resistant to >4 antimicrobials	192	78
Cephalosporins - Cefotaxime	192	13
Cephalosporins - Ceftazidim	192	13

Table Antimicrobial susceptibility testing of E. coli in Gallus gallus (fowl)

Footnote:

strains were collected in 2010 (not 2011)

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring - Objective sampling - Official sampling (stains were collected in 2010 (not 2011)) - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified	Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring (stains were collected in 2010 (not 2011))																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	192																								
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	192	2					0	1	67	108	14	0	0	0	2									
Aminoglycosides - Streptomycin	16	192	96									0	5	63	28	15	18	13	18	32					
Amphenicols - Chloramphenicol	16	192	12									4	32	127	17	1	0	0	7	4					
Amphenicols - Florfenicol	16	192	0									2	93	83	14	0	0								
Cephalosporins - Cefotaxime	0.25	192	13		6	43	100	28	2	0	0	1	12												
Fluoroquinolones - Ciprofloxacin	0.064	192	59	4	51	60	18	9	21	17	7	0	0	5											
Penicillins - Ampicillin	8	192	109								9	40	32	2	0	1	0	11	97						
Quinolones - Nalidixic acid	16	192	59								8	101	20	1	3	4	10	19	26						
Sulfonamides	64	192	107											6	43	34	2	0	0	0	0	107			
Tetracyclines - Tetracycline	8	192	156								9	22	5	0	4	21	71	57	3						
Trimethoprim	2	192	86					1	21	55	27	2	1	0	0	85									
Cephalosporins - Ceftazidim	0.5	192	13				27	100	50	2	10	2	0	1	0										

Table Antimicrobial susceptibility testing of E.coli, non-pathogenic, unspecified in Pigs - at slaughterhouse - Monitoring - Objective sampling (strainswere collected in 2010 (not 2011)) - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified	Pigs - at slaughterhouse - Monitoring (strainswere collected in 2010 (not 2011))																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	184																								
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	2	184	0					0	1	58	115	10	0	0	0	0									
Aminoglycosides - Streptomycin	16	184	105									0	6	58	15	20	21	32	19	13					
Amphenicols - Chloramphenicol	16	184	44									0	25	100	15	19	15	5	5	0					
Amphenicols - Florfenicol	16	184	2									3	45	115	19	1	1								
Cephalosporins - Cefotaxime	0.25	184	2		5	66	88	22	1	0	0	0	2												
Fluoroquinolones - Ciprofloxacin	0.064	184	3	3	80	81	17	0	2	0	1	0	0	0											
Penicillins - Ampicillin	8	184	39								14	83	47	1	0	1	0	2	36						
Quinolones - Nalidixic acid	16	184	3								5	106	70	0	0	0	0	3	0						
Sulfonamides	64	184	95											12	32	37	8	2	0	0	1	92			
Tetracyclines - Tetracycline	8	184	136								18	27	3	0	2	10	72	47	5						
Trimethoprim	2	184	83					2	22	52	22	3	1	1	0	81									
Cephalosporins - Ceftazidim	0.5	184	2				24	111	44	3	0	2	0	0	0										

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

Test Method Used	Standard methods used for testing
Broth dilution	EUCAST

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

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

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		16	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.25	
Fluoroquinolones	Ciprofloxacin		0.03	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		16	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.25	
Fluoroquinolones	Ciprofloxacin		0.03	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

3.2 ENTEROCOCCUS, NON-PATHOGENIC

3.2.1 General evaluation of the national situation

3.2.2 Antimicrobial resistance in Enterococcus, non-pathogenic isolates

A. Antimicrobial resistance of E. faecalis in Animals

Sampling strategy used in monitoring

Frequency of the sampling

A national monitoring plan is established each year from different animal productions in slaughterhouses to isolate the times indicator bacteria, E. coli and Enterococcus, and Campylobacter from the same samples.

Type of specimen taken

- For poultry production, 2 caecas from the same broiler per batch of broilers.
- For pig production, 1 fecal sample by pig representing a batch of animals from a single source, slaughtered in the same place to the same date.

Methods of sampling (description of sampling techniques)

- For poultry production, each sample consists of 2 caecas from the same broiler taken before the post of evisceration with sterile gloves in a sterile bag.
- For pig production, about 25 grams of faeces are collected in the rectum of a pig with sterile gloves in a sterile bag.

Each sample is identified with the code of the slaughterhouse and the number of the animal with a self-adhesive label affixed to the sterile plastic bag containing the sample.
The samples are kept cold quickly transported to the laboratory in charge of isolation. Upon receipt, samples are diluted to 1/10th peptone glycerol water at 25% and then spread on selective media.
After isolation, one characteristic strain is kept in peptone glycerol -70° C until antimicrobial susceptibility testing.

Procedures for the selection of isolates for antimicrobial testing

All strains isolated from the national monitoring plan are usually tested. But if too many strains are isolated, a random draw is conducted to obtain the desired number of strains.

Methods used for collecting data

Sampling has been organized within French departments in order to be representative of national productions. Samplings are of a permanent monitoring scheme and have been collected by official veterinary services from March to June and from September to December.
- For poultry production, caecal samples from Standard, Label, and Export type productions have been collected from 9 slaughterhouses in 4 regions producing broilers.
- For pig production, fecal samples of pigs have been collected from 10 slaughterhouses in 7 regions producing pigs.

Laboratory methodology used for identification of the microbial isolates

Enterococcus strains have been directly isolated on BEA (Bile-Esculin-Azide) agar plates and five typical

colonies are kept. Strains identification was performed by PCR for distinguishing Enterococcus faecalis and Enterococcus faecium.
Enterococcus faecalis was isolated with a low prevalence compared to Enterococcus faecium, especially from pig samples.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Antimicrobial susceptibility of indicator bacteria has been tested by MIC determination, according to standardized methods: broth microdilution susceptibility test by Sensititre method based on CLSI M7-A8 standard.
One type of plate, manufactured specifically for testing both strains of Enterococcus faecium and faecalis, has been used including the 12 following antibiotics (and their corresponding family of antibiotics): Ampicillin (Penicillins), Chloramphenicol (Amphenicols), Ciprofloxacin (Fluoroquinolones), Daptomycin (Glycopeptides), Erythromycin (Macrolides), Gentamicin (Aminoglycosides), Linezolid (Oxazolidines), Quinupristin/Dalfopristin (Streptogramins), Streptomycin (Aminoglycosides), Tetracycline (Tetracyclines), Tigecyclin (Glycylcyclines), Vancomycin (Glycopeptides).

Cut-off values used in testing

Results interpretations have been expressed according to the EUCAST epidemiological cut-off values.
Strains are resistant (in the epidemiological sense, no longer belonging to the wild population) if MIC value:
- Ampicillin: >4 µg/ml,
- Chloramphenicol: >32 µg/ml,
- Ciprofloxacin: >4 µg/ml,
- Daptomycin: >4 µg/ml,
- Erythromycin: >4 µg/ml,
- Gentamicin: >32 µg/ml,
- Linezolid: >4 µg/ml,
- Quinupristin/Dalfopristin: >32 µg/ml,
- Streptomycin: >512 µg/ml,
- Tetracycline: >2 µg/ml,
- Tigecyclin: >0.25 µg/ml,
- Vancomycin: >4 µg/ml.

* MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration.
** MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Preventive measures in place

Enterococcus faecalis ATCC 29212 have been used as quality control.

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

http://www.invs.sante.fr/surveillance/erg/default.htm

Additional information

The transmitted data are issued from samples collected in 2009. Data on antimicrobial susceptibility testing for 2010 samples will follow later on.

For antimicrobial resistance issue:
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B. Antimicrobial resistance of E. faecium in animal

Sampling strategy used in monitoring

Frequency of the sampling

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Type of specimen taken

- For poultry production, 2 caecas from the same broiler per batch of broilers.
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Methods of sampling (description of sampling techniques)

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Each sample is identified with the code of the slaughterhouse and the number of the animal with a self-adhesive label affixed to the sterile plastic bag containing the sample.

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Cut-off values used in testing

Results interpretations have been expressed according to the EUCAST epidemiological cut-off values. Strains are resistant (in the epidemiological sense, no longer belonging to the wild population) if MIC value:
- Ampicillin: >4 µg/ml,
- Chloramphenicol: >32 µg/ml,
- Ciprofloxacin: >4 µg/ml,
- Daptomycin: >4 µg/ml,
- Erythromycin: >4 µg/ml,
- Gentamicin: >32 µg/ml,
- Linezolid: >4 µg/ml,
- Quinupristin/Dalfopristin: >1 µg/ml,
- Streptomycin: >128 µg/ml,
- Tetracycline: >2 µg/ml,
- Tigecyclin: >0.25 µg/ml,
- Vancomycin: >4 µg/ml.

* MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration.
** MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Preventive measures in place

Enterococcus faecalis ATCC 29212 have been used as quality control.

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the zoonoses

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

-

Notification system in place

-

Results of the investigation

-

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

http://www.invs.sante.fr/surveillance/erg/default.htm

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

-

Additional information

The transmitted data are issued from samples collected in 2009. Data on antimicrobial susceptibility testing for 2010 samples will follow later on.

For antimicrobial resistance issue:
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http://www.resapath.anses.fr/SITE_RESAPATH_WEB/uploadfiles/files/Documents/2009%20RESAPATH%20Rapport%20Annuel%20Fr%20[id_doc=157].pdf

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring - Objective sampling - Official sampling (strains were collected in 2010 (not 2011))

Enterococcus, non-pathogenic	E. faecalis		E. faecium	
Isolates out of a monitoring program (yes/no)	yes		yes	
Number of isolates available in the laboratory	112		170	
Antimicrobials:	N	n	N	n
Aminoglycosides - Gentamicin	112	1	170	0
Aminoglycosides - Streptomycin	112	35	170	53
Amphenicols - Chloramphenicol	112	6	170	1
Fluoroquinolones - Ciprofloxacin	112	2	170	1
Penicillins - Ampicillin	112	0	170	26
Tetracyclines - Tetracycline	112	106	170	156
Fully sensitive	112	2	170	8
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	112	2	170	21
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	112	0	170	0
Glycylcyclines - Tigecycline	112	0	170	0
Macrolides - Erythromycin	112	74	170	104
Oxazolidines - Linezolid	112	0	170	0
Resistant to 1 antimicrobial	112	33	170	29
Resistant to 2 antimicrobials	112	39	170	30
Resistant to 3 antimicrobials	112	37	170	58
Resistant to 4 antimicrobials	112	1	170	24
Resistant to >4 antimicrobials	112	0	170	21
Streptogramins - Quinupristin/Dalfopristin	112	0	170	111

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring - Objective sampling - Official sampling (strains were collected in 2010 (not 2011))

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Pigs - at slaughterhouse - Monitoring - Objective sampling - Official sampling (straisn were collected in 2010 (not 2011))

Enterococcus, non-pathogenic	E. faecalis		E. faecium	
Isolates out of a monitoring program (yes/no)	yes		yes	
Number of isolates available in the laboratory	22		87	
Antimicrobials:	N	n	N	n
Aminoglycosides - Gentamicin	22	2	87	1
Aminoglycosides - Streptomycin	22	5	87	22
Amphenicols - Chloramphenicol	22	1	87	1
Fluoroquinolones - Ciprofloxacin	22	0	87	8
Penicillins - Ampicillin	22	0	87	2
Tetracyclines - Tetracycline	22	10	87	57
Fully sensitive	22	10	87	7
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	22	1	87	9
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	22	0	87	0
Glycylcyclines - Tigecycline	22	0	87	1
Macrolides - Erythromycin	22	5	87	25
Oxazolidines - Linezolid	22	0	87	1
Resistant to 1 antimicrobial	22	7	87	25
Resistant to 2 antimicrobials	22	1	87	24
Resistant to 3 antimicrobials	22	2	87	14
Resistant to 4 antimicrobials	22	1	87	13
Resistant to >4 antimicrobials	22	1	87	4
Streptogramins - Quinupristin/Dalfopristin	22	0	87	63

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Pigs - at slaughterhouse - Monitoring - Objective sampling - Official sampling (straisn were collected in 2010 (not 2011))

Table Antimicrobial susceptibility testing of E. faecium in Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring - Objective sampling - Official sampling (strains were collected in 2010 (not 2011)) - quantitative data [Dilution method]

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

E. faecium	Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring (strains were collected in 2010 (not 2011))																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	170																								
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	32	170	0									0	5	70	88	7	0	0	0	0	0				
Aminoglycosides - Streptomycin	128	170	53												0	8	78	31	7	4	6	13	23		
Amphenicols - Chloramphenicol	32	170	1									0	39	109	20	1	1	0							
Fluoroquinolones - Ciprofloxacin	4	170	1						0	2	30	79	58	1	0	0	0								
Penicillins - Ampicillin	4	170	26					3	11	25	38	27	40	5	0	0	21								
Tetracyclines - Tetracycline	4	170	156						12	2	0	0	0	1	6	6	42	100	1						
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	170	21					0	1	0	9	39	100	20	1	0									
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	170	0						1	90	69	10	0	0	0	0									
Glycylcyclines - Tigecycline	0.25	170	0		0	63	92	15	0	0	0	0													
Macrolides - Erythromycin	4	170	104					7	4	12	34	7	2	4	1	3	0	96							
Oxazolidines - Linezolid	4	170	0							0	13	154	3	0	0										
Streptogramins - Quinupristin/Dalfopristin	1	170	111						0	28	31	78	29	3	1	0	0								

Table Antimicrobial susceptibility testing of E. faecalis in Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring - Objective sampling - Official sampling (strains were collected in 2010 (not 2011)) - quantitative data [Dilution method]

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

E. faecalis	Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring (strains were collected in 2010 (not 2011))																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	112																								
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	32	112	1									0	1	5	63	42	0	0	0	0	1				
Aminoglycosides - Streptomycin	512	112	35												0	1	0	37	35	4	0	0	35		
Amphenicols - Chloramphenicol	32	112	6									0	8	97	1	0	3	3							
Fluoroquinolones - Ciprofloxacin	4	112	2						1	14	89	5	1	0	0	0	2								
Penicillins - Ampicillin	4	112	0					0	1	30	79	1	1	0	0	0	0								
Tetracyclines - Tetracycline	4	112	106						3	3	0	0	0	0	1	16	21	68	0						
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	112	2					0	0	1	20	64	25	2	0	0									
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	112	0						0	1	62	46	3	0	0	0									
Glycylcyclines - Tigecycline	0.25	112	0		0	6	85	21	0	0	0	0													
Macrolides - Erythromycin	4	112	74					0	6	3	13	12	4	2	7	3	4	58							
Oxazolidines - Linezolid	4	112	0							1	17	94	0	0	0										
Streptogramins - Quinupristin/Dalfopristin	32	112	0						0	1	0	2	9	97	3	0	0								

Table Antimicrobial susceptibility testing of E. faecium in Pigs - at slaughterhouse - Monitoring - Objective sampling - Official sampling (strains were collected in 2010 (not 2011)) - quantitative data [Dilution method]

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

E. faecium	Pigs - at slaughterhouse - Monitoring (strains were collected in 2010 (not 2011))																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	87																								
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	32	87	1									3	5	45	33	0	0	0	0	0	1				
Aminoglycosides - Streptomycin	128	87	22												0	4	47	14	1	0	1	7	13		
Amphenicols - Chloramphenicol	32	87	1									0	11	72	3	0	1	0							
Fluoroquinolones - Ciprofloxacin	4	87	8						4	28	16	10	21	6	2	0	0								
Penicillins - Ampicillin	4	87	2					3	4	14	21	11	32	2	0	0	0								
Tetracyclines - Tetracycline	4	87	57						23	6	0	1	0	0	0	5	21	31	0						
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	87	9					0	0	6	5	19	48	8	1	0									
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	87	0						1	62	9	15	0	0	0	0									
Glycylcyclines - Tigecycline	0.25	87	1		0	40	34	11	1	1	0	0													
Macrolides - Erythromycin	4	87	25					2	5	0	23	27	5	0	0	0	0	25							
Oxazolidines - Linezolid	4	87	1							0	2	78	6	0	1										
Streptogramins - Quinupristin/Dalfopristin	1	87	63						1	19	4	42	19	2	0	0	0								

Table Antimicrobial susceptibility testing of E. faecalis in Pigs - at slaughterhouse - Monitoring - Objective sampling - Official sampling (strains were collected in 2010 (not 2011)) - quantitative data [Dilution method]

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

E. faecalis	Pigs - at slaughterhouse - Monitoring (strains were collected in 2010 (not 2011))																								
Isolates out of a monitoring program (yes/no)	yes																								
Number of isolates available in the laboratory	22																								
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest
Aminoglycosides - Gentamicin	32	22	2									0	0	0	16	4	0	0	0	0	2				
Aminoglycosides - Streptomycin	512	22	5												0	0	0	8	8	1	0	0	5		
Amphenicols - Chloramphenicol	32	22	1									0	1	17	3	0	1	0							
Fluoroquinolones - Ciprofloxacin	4	22	0						0	2	18	2	0	0	0	0	0								
Penicillins - Ampicillin	4	22	0					0	1	5	16	0	0	0	0	0	0								
Tetracyclines - Tetracycline	4	22	10						0	11	0	0	1	0	0	2	6	2	0						
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	22	1					0	0	0	3	11	7	1	0	0									
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	22	0						0	0	17	5	0	0	0	0									
Glycylcyclines - Tigecycline	0.25	22	0		0	1	20	1	0	0	0	0													
Macrolides - Erythromycin	4	22	5					0	5	1	8	3	0	0	0	0	0	5							
Oxazolidines - Linezolid	4	22	0							0	1	21	0	0	0										
Streptogramins - Quinupristin/Dalfopristin	32	22	0						0	1	0	0	0	18	3	0	0								

Footnote:

strains collected in 2010 (not in 2011)

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	32	
	Streptomycin	EFSA	512	
Amphenicols	Chloramphenicol	EFSA	32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin	EFSA	4	
	Daptomycin		4	
Macrolides	Erythromycin	EFSA	4	
Oxazolidines	Linezolid	EFSA	4	
Penicillins	Ampicillin	EFSA	4	
Streptogramins	Quinupristin/Dalfopristin	EFSA	32	
Tetracyclines	Tetracycline	NON-EFSA	4	
Fluoroquinolones	Ciprofloxacin		4	
Glycylcyclines	Tigecycline		0.25	

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

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		512	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		512	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin	EFSA	32	
	Streptomycin	EFSA	128	
Amphenicols	Chloramphenicol	EFSA	32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin	EFSA	4	
	Daptomycin		4	
Macrolides	Erythromycin	EFSA	4	
Oxazolidines	Linezolid	EFSA	4	
Penicillins	Ampicillin	EFSA	4	
Streptogramins	Quinupristin/Dalfopristin	EFSA	1	
Tetracyclines	Tetracycline	NON-EFSA	4	
Fluoroquinolones	Ciprofloxacin		4	
Glycylcyclines	Tigecycline		0.25	

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

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		128	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		128	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 ENTEROBACTER SAKAZAKII

4.1.1 General evaluation of the national situation

A. Enterobacter sakazakii general evaluation

History of the disease and/or infection in the country

-

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

http://www.invs.sante.fr/publications/2006/infections_e_sakazakii/index.html

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

-

Recent actions taken to control the hazard

-

Suggestions to the Community for the actions to be taken

-

Additional information

-

4.1.2 Cronobacter in foodstuffs

A. Enterobacter sakazakii in foodstuffs

Monitoring system

Sampling strategy

-

Frequency of the sampling

-

Methods of sampling (description of sampling techniques)

-

Definition of positive finding

-

Diagnostic/analytical methods used

-

Preventive measures in place

Surveillance in accordance with Reg. (EC) 2073-2005

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the hazard

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

-

Notification system in place

-

Results of the investigation

-

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

-

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

-

Additional information

http://www.infectiologie.com/site/medias/_documents/officiels/afssa/Esakazakii090207.pdf

4.2 HISTAMINE

4.2.1 General evaluation of the national situation

A. Histamine General evaluation

History of the disease and/or infection in the country

See Invs website (see part "additional information)

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

Histamine poisoning is the first cause of fish-related foodborne infection in France. Cases of intoxication due to histamine is in constant increasing.
In 2006, 76 collective toxi-infections were due to histamine (407 diseases, 35 hospitalized). Thunna was involved in 94.4% of the cases.

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

--

Recent actions taken to control the hazard

--

Suggestions to the Community for the actions to be taken

--

Additional information

See specific file on:
http://www.invs.sante.fr/

In animals:
http://www.afssa.fr/Documents/MIC-Fi-Histamine.pdf

4.2.2 Histamine in foodstuffs

A. Histamine in foodstuffs

Monitoring system

Sampling strategy

The sampling is done according risk assesment and risk exposure:
- population density of the departement
- population movings especially during summer
- datas of human consumption of fish given by "OFIMER"
- a ring sampling to cover the whole country every three years
- official samples are made by local vet services
- fish species susceptible at high rate of histamine

Frequency of the sampling

Monitoring plan every year at retail level (market or supermarket) or distribution stage (restaurant, catering).

Methods of sampling (description of sampling techniques)

For ready to eat product at retail level
250g of a batch of several products (same shelf storage)
For big size fich sold in a market stall: 2 cubes of flesh (125g *2) or 250 g flesh near dorsal fin and median abdomen part.
- Registered temperature for samples (between 0 and 2°C)
- samples are frozen before being sent to analyse

Definition of positive finding

For the monitoring plan every result >100 ppm (10mg/100g) is confirmed by HPLC in NRL.
Non conformity result is > 100ppm

Diagnostic/analytical methods used

HPLC (high performance liquid chromatography)
http://www.afssa.fr/Poisson/Documents/MIC-Fi-HistaminePeche.pdf

By the NRL AFSSA Boulogne-Sur-Mer

Preventive measures in place

Inspections, close cooperation system between local health services and local vet services. Coordination at the central level.

Control program/mechanisms

The control program/strategies in place

A monitoring plan is made every year on fish products in accordance with Reg. (EC) 2073-2005 (and 882/2004 and 854/2004 and in close cooperation with Invs and ANSES Boulogne-sur-Mer.

Recent actions taken to control the hazard

--

Suggestions to the Community for the actions to be taken

--

Measures in case of the positive findings or single cases

Market withdrawal

Notification system in place

Close cooperation between vet services and health services at local and central level (emergency units)

Results of the investigation

http://www.academie-veterinaire-defrance.org/bulletin/pdf/2009/03.pdf

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

--

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

--

Additional information

NRL for histamine
ANSES
Quai Désiré Delmotte, 62200 Boulogne sur Mer

Table Histamine in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample Origin	Sampling unit	Sample weight	Units tested	Total units in non-conformity	<= 100 mg/kg	>100 - <= 200 mg/kg
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - Surveillance (At auction hall)	monitoring plan		Official sampling	food sample		Single	225g	4	0	4	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - Surveillance (At fishmonger)	monitoring plan		Official sampling	food sample		Single	225g	144	1	141	2
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - Surveillance (At wholesale market)	monitoring plan		Official sampling	food sample		Single	225g	19	0	19	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at catering - Surveillance	monitoring plan		Official sampling	food sample		Single	225g	85	0	83	2
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at cutting plant - Surveillance	monitoring plan		Official sampling	food sample		Single	225g	24	0	24	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at retail - Surveillance (At supermarket)	monitoring plan		Official sampling	food sample		Single	225g	334	4	330	0
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at retail - Surveillance (At supermarket)	monitoring plan		Official sampling	food sample		Single	225g	2	2	0	0

Table Histamine in food

	>200 - <= 400 mg/kg	> 400 mg/kg
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - Surveillance (At auction hall)	0	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - Surveillance (At fishmonger)	0	1
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - Surveillance (At wholesale market)	0	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at catering - Surveillance	0	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at cutting plant - Surveillance	0	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at retail - Surveillance (At supermarket)	1	3
Fish - Fishery products which have undergone enzyme maturation treatment in brine - at retail - Surveillance (At supermarket)	0	2

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

A. Staphylococcal enterotoxins general evaluation

History of the disease and/or infection in the country

See "additional informations"

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

-

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

-

Recent actions taken to control the hazard

-

Suggestions to the Community for the actions to be taken

-

Additional information

http://nte-serveur.univ-lyon1.fr/hcl2004/CNR_staphylocoques/

http://www.invs.sante.fr/publications/2005/snmi/syndromes_toxiques_staphylococciques.html

4.3.2 Staphylococcal enterotoxins in foodstuffs

A. Staphylococcal enterotoxins in foodstuffs

Monitoring system

Sampling strategy

-

Frequency of the sampling

-

Methods of sampling (description of sampling techniques)

-

Definition of positive finding

-

Diagnostic/analytical methods used

-

Preventive measures in place

-

Control program/mechanisms

The control program/strategies in place

-

Recent actions taken to control the hazard

-

Suggestions to the Community for the actions to be taken

-

Measures in case of the positive findings or single cases

-

Notification system in place

-

Results of the investigation

-

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

-

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

-

Additional information

-

5. FOODBORNE

Foodborne outbreaks are incidences of two or more human cases of the same disease or infection where the cases are linked or are probably linked to the same food source. Situation, in which the observed human cases exceed the expected number of cases and where a same food source is suspected, is also indicative of a foodborne outbreak.

A. Foodborne outbreaks

System in place for identification, epidemological investigations and reporting of foodborne outbreaks

Interesting informations are available on INVS website (see "additional information), or www.alimentation.gouv.fr

The investigations are made on the field and centrally in close cooperation between general directorate for food (especially office for sanitary emergencies), InVS and French Directorate for health, mission for sanitary emergencies. Details about this organisation are available at http://www.frenchfoodsafety.co.uk/ (in several languages).In France, the government guarantees a high level of consumer protection. This is why, beyond its power of regulation, the State ensures a large monitoring mission across the different services of the three ministries concerned with agriculture, health and consumption. The Ministry of Agriculture and Fishing is the pilot ministry in respect of food safety and the Directorate General of Food, the relevant management.

The coordination and collaboration between the French ministries spreads out in a similar way between the different locally present departmental administrations, under the aegis of prefects. For greater efficacity, the command chain is short between central administration, the decision maker and the departments, the executants.

The prefect : In France, prefects are high-ranking civil servants, appointed by the president of the Republic. They represent the State in the departments (there are 100) and regions (there are 22).

The departments and regions are the grass roots administrative units which share the French territory and within which administration is coordinated by the prefect.

Nearly 8000 public agents participate in France in the guarding of safety in the food sector. Large human resources are dedicated to inspections and checks. The French territory has available for its use a network of laboratories that allow extensive analysis in the veterinary field: 12 national leading laboratories and a public analysis laboratory in each of the 100 French departments.

The French system, in the same way as all the countries that export to the European Union, regularly submits to external audits organised under the aegis of the European Commission and led by the Food and Veterinary Office (OAV). This office monitors respect for the European regulations with regard to the hygiene of foodstuffs particularly for the European Union and for other foreign countries, called third countries.

The health authorities, agricultural professionals and food manufacturers make use of everything available to them to ensure flawless knowledge about the origin of ingredients and products which enter into the composition of foodstuffs that are then sold.Since 1st July 2005, the obligation of traceability has been extensive in the European Union. It makes it possible to be able to follow the movement of products, from the field to the shop - whether it be in France or abroad - passing through the factory, transport, place of storage and distribution, so as to guarantee at the same time origin and safety, at each stage from the preparation process to the final product.

According to the international standard ISO 8402, traceability is « the ability to rediscover the history, use or the location of an entity, through the medium of registered identifications».

The label is a component of traceability. A source of information, it allows the consumer to be informed and to go back through the whole of the production chain. The French authorities have an obligation to provide information and be transparent with regards to consumers.

Even if food has never been as safe as now and if the risks are truly less than in the past, incidents remain possible in spite of numerous measures put in place.

Human listeriosis : In the 1980s, between 11 and 14 cases were recorded annually compared with 4 in 2000 according to the National Reference and Obligatory Declaration Centre. If national and European alerts grow in number, it is due to the reinforcement of vigilance, monitoring, technical and scientific developments made.

If needed, an alert system is activated by the authorities if it has not already been done by the company or the organisation concerned, which is legally responsible for the marketing of their products. The alert given allows those products at risk to be indentified in order to withdraw them from points of sale and to inform consumers, so that they bring back defective products that they have bought.

When there is an alert on an exported product, information reaches the health authorities of the importing country to allow them to take action.

Abroad, it is the agriculture attachés and French vets positioned in the embassies who ensure the links with the national health authorities.

Description of the types of outbreaks covered by the reporting:

--

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

--

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

--

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

--

Evaluation of the severity and clinical picture of the human cases

--

Descriptions of single outbreaks of special interest

See updated information about outbreak of interest on inVS web site

Control measures or other actions taken to improve the situation

--

Suggestions to the community for the actions to be taken

--

Additional information

http://www.invs.sante.fr/surveillance/tiac/default.htm

Table Foodborne Outbreaks: summarised data

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Salmonella - S. Typhimurium	19	107	27	0	4	23
Salmonella - S. Enteritidis	14	126	23	0	5	19
Salmonella - Other serovars	0	unknown	unknown	unknown	9	9
Campylobacter	0	unknown	unknown	unknown	12	12
Listeria - Listeria monocytogenes	0	unknown	unknown	unknown	0	0
Listeria - Other Listeria	0	unknown	unknown	unknown	0	0
Yersinia	0	unknown	unknown	unknown	0	0
Escherichia coli, pathogenic - Verotoxigenic E. coli (VTEC)	1	3	0	0	1	2
Bacillus - B. cereus	146	1301	35	1	8	154
Bacillus - Other Bacillus	1	3	unknown	0	0	1
Staphylococcal enterotoxins	281	2106	166	1	11	292
Clostridium - Cl. botulinum	0	unknown	unknown	unknown	4	4
Clostridium - Cl. perfringens	98	1684	21	3	1	99

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Clostridium - Other Clostridia	1	5	0	0	0	1
Other Bacterial agents - Brucella	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Shigella	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Other Bacterial agents	0	unknown	unknown	unknown	0	0
Parasites - Trichinella	0	unknown	unknown	unknown	1	1
Parasites - Giardia	0	unknown	unknown	unknown	0	0
Parasites - Cryptosporidium	0	unknown	unknown	unknown	0	0
Parasites - Anisakis	0	unknown	unknown	unknown	0	0
Parasites - Other Parasites	0	unknown	unknown	unknown	0	0
Viruses - Norovirus	2	27	1	0	15	17
Viruses - Hepatitis viruses	0	unknown	unknown	unknown	0	0
Viruses - Other Viruses	37	815	14	0	15	52
Other agents - Histamine	3	8	0	0	30	33
Other agents - Marine biotoxins	2	9	1	0	9	11
Other agents - Other Agents	0	unknown	unknown	unknown	0	0

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Unknown agent	290	1653	97	0	0	290

Table Foodborne Outbreaks: detailed data for Bacillus

Please use CTRL for multiple selection fields

B. cereus

	Value
FBO Code	647139
Number of outbreaks	1
Number of human cases	16
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

B. cereus

	Value
FBO Code	646434
Number of outbreaks	1
Number of human cases	7
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Vegetables and juices and other products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

B. cereus

	Value
FBO Code	646433
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Pig meat and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

B. cereus

	Value
FBO Code	645544
Number of outbreaks	1
Number of human cases	10
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

B. cereus

	Value
FBO Code	644339
Number of outbreaks	1
Number of human cases	22
Number of hospitalisations	15
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

B. cereus

	Value
FBO Code	644311
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Cereal products including rice and seeds/pulses (nuts, almonds)
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

B. cereus

	Value
FBO Code	647139
Number of outbreaks	1
Number of human cases	16
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

B. cereus

	Value
FBO Code	635091
Number of outbreaks	1
Number of human cases	20
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Cereal products including rice and seeds/pulses (nuts, almonds)
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Campylobacter

Please use CTRL for multiple selection fields

Campylobacter spp., unspecified

	Value
FBO Code	11/042/002
Number of outbreaks	1
Number of human cases	10
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Cheese
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Campylobacter spp., unspecified

	Value
FBO Code	646743
Number of outbreaks	1
Number of human cases	8
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Broiler meat (Gallus gallus) and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Campylobacter spp., unspecified

	Value
FBO Code	645488
Number of outbreaks	1
Number of human cases	17
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Broiler meat (Gallus gallus) and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Campylobacter spp., unspecified

	Value
FBO Code	627395
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Pig meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

C. coli

	Value
FBO Code	11/059/045
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Other, mixed or unspecified poultry meat and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

C. jejuni

	Value
FBO Code	646337
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Broiler meat (Gallus gallus) and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

C. jejuni

	Value
FBO Code	644928
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

C. jejuni

	Value
FBO Code	644924
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

C. jejuni

	Value
FBO Code	643121
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Bovine meat and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

C. jejuni

	Value
FBO Code	633882
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Other, mixed or unspecified poultry meat and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

C. jejuni

	Value
FBO Code	644928
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

C. jejuni

	Value
FBO Code	634966
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Broiler meat (Gallus gallus) and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Clostridium

Please use CTRL for multiple selection fields

C. perfringens

	Value
FBO Code	634959
Number of outbreaks	1
Number of human cases	32
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other, mixed or unspecified poultry meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

C. botulinum

	Value
FBO Code	645202
Number of outbreaks	2
Number of human cases	9
Number of hospitalisations	9
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

C. botulinum

	Value
FBO Code	645202
Number of outbreaks	2
Number of human cases	9
Number of hospitalisations	9
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence;Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Escherichia coli, pathogenic

Please use CTRL for multiple selection fields

Verotoxigenic E. coli (VTEC) - VTEC O104:H4 - EAggEC positive vtx2 positive

	Value
FBO Code	651851
Number of outbreaks	1
Number of human cases	15
Number of hospitalisations	15
Number of deaths	0
Food vehicle	Vegetables and juices and other products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Other agents

Please use CTRL for multiple selection fields

Histamine

	Value
FBO Code	647239
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	646767
Number of outbreaks	1
Number of human cases	8
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	646752
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	646725
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	646435
Number of outbreaks	1
Number of human cases	8
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	645549
Number of outbreaks	1
Number of human cases	7
Number of hospitalisations	6
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	645449
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	644840
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	644478
Number of outbreaks	1
Number of human cases	8
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	644475
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	644309
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	644231
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	644117
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	644040
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	643577
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	643180
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	643153
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	637184
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	633875
Number of outbreaks	1
Number of human cases	25
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	632655
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	627208
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	634981
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Marine biotoxins

	Value
FBO Code	11/095/007
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Marine biotoxins

	Value
FBO Code	11/034/012
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Marine biotoxins

	Value
FBO Code	11/011/001
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Marine biotoxins

	Value
FBO Code	644845
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Marine biotoxins

	Value
FBO Code	643274
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Marine biotoxins

	Value
FBO Code	643130
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Marine biotoxins

	Value
FBO Code	638224
Number of outbreaks	1
Number of human cases	9
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Marine biotoxins

	Value
FBO Code	637266
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Marine biotoxins

	Value
FBO Code	632572
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	11/076/024
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	11/075/091
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	4
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	11/069/017
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	6
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	11/056/009
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	11/055/003
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	11/040/008
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	11/014/004
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Histamine

	Value
FBO Code	11/005/001
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Parasites

Please use CTRL for multiple selection fields

Trichinella - T. pseudospiralis

	Value
FBO Code	651856
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Pig meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Salmonella

Please use CTRL for multiple selection fields

S. Newport

	Value
FBO Code	632570
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Broiler meat (Gallus gallus) and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Salmonella spp., unspecified

	Value
FBO Code	646988
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Salmonella spp., unspecified

	Value
FBO Code	645664
Number of outbreaks	1
Number of human cases	25
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Salmonella spp., unspecified

	Value
FBO Code	643377
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Dairy products (other than cheeses)
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Salmonella spp., unspecified

	Value
FBO Code	626210
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Salmonella spp., unspecified

	Value
FBO Code	645664
Number of outbreaks	1
Number of human cases	25
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Salmonella spp., unspecified

	Value
FBO Code	635418
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Broiler meat (Gallus gallus) and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Salmonella spp., unspecified

	Value
FBO Code	635095
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	1
Number of deaths	1
Food vehicle	Cheese
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. enterica subsp. arizonae

	Value
FBO Code	11/031/002
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Turkey meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	647158
Number of outbreaks	1
Number of human cases	8
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	645728
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	645695
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	644838
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Turkey meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	634775
Number of outbreaks	1
Number of human cases	12
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Typhimurium

	Value
FBO Code	645779
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	4
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Typhimurium

	Value
FBO Code	644768
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Typhimurium

	Value
FBO Code	643379
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

S. Typhimurium

	Value
FBO Code	643150
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Bovine meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Staphylococcal enterotoxins

Please use CTRL for multiple selection fields

null

	Value
FBO Code	647926
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

null

	Value
FBO Code	646994
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

null

	Value
FBO Code	646437
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

null

	Value
FBO Code	646181
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Pig meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

null

	Value
FBO Code	646180
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other, mixed or unspecified poultry meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

null

	Value
FBO Code	646176
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

null

	Value
FBO Code	644333
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

null

	Value
FBO Code	641422
Number of outbreaks	1
Number of human cases	9
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Cereal products including rice and seeds/pulses (nuts, almonds)
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

null

	Value
FBO Code	639614
Number of outbreaks	1
Number of human cases	42
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

null

	Value
FBO Code	646176
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

null

	Value
FBO Code	639614
Number of outbreaks	1
Number of human cases	42
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Table Foodborne Outbreaks: detailed data for Viruses

Please use CTRL for multiple selection fields

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	11/042/001
Number of outbreaks	1
Number of human cases	20
Number of hospitalisations	unknown
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	649353
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	647230
Number of outbreaks	1
Number of human cases	20
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Fish and fish products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	646916
Number of outbreaks	1
Number of human cases	61
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	636059
Number of outbreaks	1
Number of human cases	40
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Mixed food
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	633318
Number of outbreaks	1
Number of human cases	47
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Bovine meat and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	630754
Number of outbreaks	1
Number of human cases	8
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	629882
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	627429
Number of outbreaks	1
Number of human cases	11
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Eggs and egg products
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	627169
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	626498
Number of outbreaks	1
Number of human cases	8
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	625943
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Detection of causative agent in food vehicle or its component - Symptoms and onset of illness pathognomonic to causative agent
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	646916
Number of outbreaks	1
Number of human cases	61
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	635409
Number of outbreaks	1
Number of human cases	147
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Calicivirus - norovirus (Norwalk-like virus)

	Value
FBO Code	635409
Number of outbreaks	1
Number of human cases	147
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	
Nature of evidence	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	648104
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	648025
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	647073
Number of outbreaks	1
Number of human cases	9
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	643135
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	1
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	627545
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	627428
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	627419
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	627202
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	627201
Number of outbreaks	1
Number of human cases	4
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	627170
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	626386
Number of outbreaks	1
Number of human cases	13
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	463675
Number of outbreaks	1
Number of human cases	5
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	463672
Number of outbreaks	1
Number of human cases	2
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	635595
Number of outbreaks	1
Number of human cases	6
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	

Enterovirus

	Value
FBO Code	634972
Number of outbreaks	1
Number of human cases	3
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Crustaceans, shellfish, molluscs and products thereof
More food vehicle information	
Nature of evidence	Descriptive epidemiological evidence
Outbreak type	Household / domestic kitchen
Setting	Unknown
Place of origin of problem	Unknown
Origin of food vehicle	Unknown
Contributory factors	Unknown
Mixed Outbreaks (Other Agent)	
Additional information	