

FRANCE

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

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

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

IN 2009

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: France

Reporting Year:

Laboratory name	Description	Contribution
DGAL	Direction générale de l'alimentation	Centralization of datas National Monitoring plan in animals and foodstuff and feedstuff Datas on regulated disease
AFSSA	Agence Française de Sécurité Sanitaire des Aliments	ABR datas Datas when AFSSA is NRL
INVS	Institut National de Veille Sanitaire	FBO datas

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 2009 .

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

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

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

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

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

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1. ANIMAL POPULATIONS

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

A. Information on susceptible animal population

Sources of information

The 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 holdings indicated in the table corresponds to animals present at the time of 1 November 2009 for the bovine, ovine, caprine and porcine species. Sources are the "surveys on livestock", surveys imposed by the Community legislation, the overall results of which are forwarded to Eurostat.

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 foreseen 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 2008. 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://www.securitesanitairesaliments.com/> 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

* Only if different than current reporting year

Animal species	Category of animals	Livestock numbers (live animals)		Number of herds or flocks		Number of holdings		Number of slaughtered animals		Livestock numbers (live animals)
		Data	Year*	Data	Year*	Data	Year*	Data	Year*	Data
Cattle (bovine animals)	meat production animals ¹⁾							3484861		9444344
	mixed herds ²⁾									3760269
	dairy cows and heifers									5759519
	calves (under 1 year) ³⁾							1476889		4881673
	- in total							4961750		19199344
Deer	farmed - in total ⁴⁾							4040		
Ducks	meat production flocks							43417790	2008	
	- in total							75084000		25085904
	foie gras production flocks							35165404	2008	15960000
Gallus gallus (fowl)	breeding flocks, unspecified - in total							8454094	2008	8121000
	broilers ⁵⁾			35913				719254000		122722000
	laying hens							38013000		41916000
	- in total							757267000		190664000

Table Susceptible animal populations

Table Susceptible animal populations

Animal species	Category of animals	Livestock numbers (live animals)		Number of herds or flocks		Number of holdings		Number of slaughtered animals		Livestock numbers (live animals)
		Data	Year*	Data	Year*	Data	Year*	Data	Year*	Data
Gallus gallus (fowl)	capon production flocks							2609152	2008	
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line	grandparent breeding flocks for broiler production line - adult (and elite flocks)			121						749437
	grandparent breeding flocks for broiler production line - during rearing period (and elite flocks)			193						1208500
Gallus gallus (fowl) - grandparent breeding flocks for egg production line	grandparent breeding flocks for egg production line - adult ((and elite flocks))			32						210963
	grandparent breeding flocks for egg production line - during rearing period ((and elite flocks))			17						146413
Gallus gallus (fowl) - laying hens	laying hens - adult			2855						40475876
	laying hens - during rearing period			2050						50541315
Gallus gallus (fowl) - parent breeding flocks for broiler production line	parent breeding flocks for broiler production line - adult (and elite flocks)			920						7963785
	parent breeding flocks for broiler production line - during rearing period (and elite flocks)			877						8569017
Gallus gallus (fowl) - parent breeding flocks for egg production line	parent breeding flocks for egg production line - adult (and elite flocks)			76						801234
	parent breeding flocks for egg production line - during rearing period (and elite flocks)			63						1000690
Geese	meat production flocks							119168	2008	

Table Susceptible animal populations

Animal species	Category of animals	Livestock numbers (live animals)		Number of herds or flocks		Number of holdings		Number of slaughtered animals		Livestock numbers (live animals)
		Data	Year*	Data	Year*	Data	Year*	Data	Year*	Data
Geese	- in total							450000		644000
	foie gras production flocks							331163	2008	
Goats	meat production animals									108531
	animals over 1 year ⁶⁾							119315		
	milk goats									1209421
	animals under 1 year							663964		
	- in total							783279		1317952
Pigs	breeding animals ⁷⁾							418876		15573
	fattening pigs							24192857		8008799
Pigs - breeding animals - unspecified	breeding animals - unspecified - sows and gilts									1184612
Pigs	- in total							24907765		14552330
Pigs - fattening pigs - unspecified	fattening pigs - unspecified - piglets							296032		5326162
Sheep	milk ewes									1667439
	meat production animals							564782		4525884

Table Susceptible animal populations

Animal species	Category of animals	Livestock numbers (live animals)		Number of herds or flocks		Number of holdings		Number of slaughtered animals		Livestock numbers (live animals)
		Data	Year*	Data	Year*	Data	Year*	Data	Year*	Data
Sheep	animals under 1 year (lambs)							3867391		1334880
	- in total							4432173		7528202
Solipeds, domestic	horses - in total							15468		362969
Turkeys	meat production flocks			9750	2007					
	- in total							58582000		24422
Turkeys - grandparent breeding flocks	grandparent breeding flocks - during rearing period (and elite flocks)			28	2007					
	grandparent breeding flocks - during rearing period (including elite flocks)			57	2007					
Turkeys - parent breeding flocks	parent breeding flocks - adult (and elite flocks)			675	2007			430		
	parent breeding flocks - during rearing period (and elite flocks)			377	2007					
Wild boars	farmed - in total							762		
Bison and buffalos	- in total ⁸⁾									
	- in total ⁹⁾									
Pigeons	- in total							3098185		
Partridges	- in total							46676		

Table Susceptible animal populations

Animal species	Category of animals	Livestock numbers (live animals)		Number of herds or flocks		Number of holdings		Number of slaughtered animals		Livestock numbers (live animals)
		Data	Year*	Data	Year*	Data	Year*	Data	Year*	Data
Guinea fowl	- in total							26795830		
Bison and buffalos	- in total ¹⁰⁾							1915		
Pheasants	- in total							68910	2008	
Guinea fowl	- in total								2008	
Partridges	- in total								2008	
Pigeons	- in total								2008	
Bison and buffalos	- in total ¹¹⁾									
Guinea fowl	- in total	10017000								
Bison and buffalos	- in total ¹²⁾									
Partridges	- in total	6435000								
Bison and buffalos	- in total ¹³⁾									
Guinea fowl	- in total		2009							
Partridges	- in total		2009							
Bison and buffalos	- in total ¹⁴⁾									

Table Susceptible animal populations

Animal species	Category of animals	Livestock numbers (live animals)		Number of herds or flocks		Number of holdings		Number of slaughtered animals		Livestock numbers (live animals)
		Data	Year*	Data	Year*	Data	Year*	Data	Year*	Data
Bison and buffalos	- in total ¹⁵⁾									

Animal species	Category of animals	Livestock numbers (live animals)	Number of holdings	
		Year*	Data	Year*
Cattle (bovine animals)	meat production animals ¹⁾		116672	
	mixed herds ²⁾		27445	
	dairy cows and heifers		82185	
	calves (under 1 year) ³⁾			
	- in total		191425	
Deer	farmed - in total ⁴⁾		386	2007
Ducks	meat production flocks	2009		
	- in total	2007	33512	2007
	foie gras production flocks	2009		
Gallus gallus (fowl)	breeding flocks, unspecified - in total			
	broilers ⁵⁾		22103	

Table Susceptible animal populations

Animal species	Category of animals	Livestock numbers (live animals)	Number of holdings	
		Year*	Data	Year*
Gallus gallus (fowl)	laying hens			
	- in total			
	capon production flocks			
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line	grandparent breeding flocks for broiler production line - adult (and elite flocks)		101	
	grandparent breeding flocks for broiler production line - during rearing period (and elite flocks)		97	
Gallus gallus (fowl) - grandparent breeding flocks for egg production line	grandparent breeding flocks for egg production line - adult ((and elite flocks))		39	
	grandparent breeding flocks for egg production line - during rearing period ((and elite flocks))		13	
Gallus gallus (fowl) - laying hens	laying hens - adult		3369	
	laying hens - during rearing period		1011	
Gallus gallus (fowl) - parent breeding flocks for broiler production line	parent breeding flocks for broiler production line - adult (and elite flocks)		948	
	parent breeding flocks for broiler production line - during rearing period (and elite flocks)		506	
Gallus gallus (fowl) - parent breeding flocks for egg production line	parent breeding flocks for egg production line - adult (and elite flocks)		73	

Table Susceptible animal populations

		Livestock numbers (live animals)	Number of holdings	
Animal species	Category of animals	Year*	Data	Year*
Gallus gallus (fowl) - parent breeding flocks for egg production line	parent breeding flocks for egg production line - during rearing period (and elite flocks)		35	
Geese	meat production flocks			
	- in total	2009	12851	2007
	foie gras production flocks			
Goats	meat production animals			
	animals over 1 year ⁶⁾			
	milk goats			
	animals under 1 year			
	- in total		16052	
Pigs	breeding animals ⁷⁾			
	fattening pigs			
Pigs - breeding animals - unspecified	breeding animals - unspecified - sows and gilts			
Pigs	- in total		29511	
Pigs - fattening pigs - unspecified	fattening pigs - unspecified - piglets			

Table Susceptible animal populations

Animal species	Category of animals	Livestock numbers (live animals)	Number of holdings	
		Year*	Data	Year*
Sheep	milk ewes			
	meat production animals			
	animals under 1 year (lambs)			
	- in total		57977	
Solipeds, domestic	horses - in total	2007	55110	2007
Turkeys	meat production flocks		3900	2007
	- in total	2009		
Turkeys - grandparent breeding flocks	grandparent breeding flocks - during rearing period (and elite flocks)		18	2007
	grandparent breeding flocks - during rearing period (including elite flocks)		36	2007
Turkeys - parent breeding flocks	parent breeding flocks - adult (and elite flocks)		430	2007
	parent breeding flocks - during rearing period (and elite flocks)		240	2007
Wild boars	farmed - in total			
Bison and buffalos	⁸⁾			
	- in total ⁹⁾			

Table Susceptible animal populations

Animal species	Category of animals	Livestock numbers (live animals)	Number of holdings	
		Year*	Data	Year*
Pigeons	- in total			
Partridges	- in total			
Guinea fowl	- in total			
Bison and buffalos	- in total ¹⁰⁾			
Pheasants	- in total			
Guinea fowl	- in total			
Partridges	- in total			
Pigeons	- in total			
Bison and buffalos	- in total ¹¹⁾			
Guinea fowl	- in total			
Bison and buffalos	- in total ¹²⁾			
Partridges	- in total			
Bison and buffalos	- in total ¹³⁾			
Guinea fowl	- in total			

Table Susceptible animal populations

Animal species	Category of animals	Livestock numbers (live animals)	Number of holdings	
		Year*	Data	Year*
Partridges	- in total			
Bison and buffalos	- in total ¹⁴⁾			
	¹⁵⁾			

Comments:

- 1) For livestock numbers this includes calves. For slaughtered animals, this number includes : suckler cows, fattening cows and steers, calves, heifers, beef, bulls.
- 2) For livestock numbers this includes calves.
- 3) Calves are included in meat production category, dairy cows and heifers category and mixed herds category..
- 4) For the number of holdings this number includes buffaloes and bison holdings.
- 5) For the number of herds, this evaluation comes from the salmonella control program in broilers (see specific prevalence table). The number of flocks must be between 75000 and 100000.
- 6) Includes reformed goats and billygoats.
- 7) For livestock numbers this number includes only boars, For number of slaughtered animals, this number includes boars and gilts.
- ¹⁵⁾ This number includes ratites.
- ¹⁵⁾ This number includes ratites.
- ¹⁵⁾ This number includes ratites.
- ¹⁵⁾ This number includes ratites.
- ¹⁵⁾ This number includes ratites.
- ¹⁵⁾ This number includes ratites.
- ¹⁵⁾ This number includes ratites.
- ¹⁵⁾ This number includes ratites.

Footnote:

All the updated figures are available at : <http://www.agreste.agriculture.gouv.fr/>

The data for gallus gallus and turkey comes from the control program against salmonella.

2. INFORMATION ON SPECIFIC ZOOSES AND ZOOBOTIC 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. enteritidis 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-omscadreocr/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

--

Diagnostic/analytical methods used

--

Notification system in place

--

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

--

Relevance as zoonotic disease

--

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

--

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

--

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

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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

--

At retail

--

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

--

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

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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 manufacturing 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 slaughterhouse.

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

--

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

--

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. Salmonella spp. in eggs and egg products

Monitoring system

Sampling strategy

--

Methods of sampling (description of sampling techniques)

Eggs at egg packing centres (foodstuff based approach)

--

Eggs at retail

--

Raw material for egg products (at production plant)

--

Egg products (at production plant and at retail)

--

Definition of positive finding

Eggs at egg packing centres (foodstuff based approach)

--

Eggs at retail

--

Raw material for egg products (at production plant)

--

Egg products (at production plant and at retail)

--

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

--

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 turkey meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant

--

At meat processing plant

--

At retail

--

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

--

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

--

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Agona	S. Albany	S. Bareilly
Meat from broilers (Gallus gallus) - carcass - chilled - at retail - domestic production - Monitoring - official sampling (with skin) ¹⁾	CCA	Single	25g	120	9		1		1	1	
Meat from broilers (Gallus gallus) - fresh - skinned - at retail - domestic production - Monitoring - official sampling (chilled escalope)	CCA	Single	25g	120	2						1
Meat from broilers (Gallus gallus) - fresh - with skin - at retail - domestic production - Monitoring - official sampling (chilled legs)	CCA	Single	25g	121	2						

	S. Bredeney	S. Ferruch	S. Indiana	S. Kottbus	S. Livingstone	S. Mbandaka
Meat from broilers (Gallus gallus) - carcass - chilled - at retail - domestic production - Monitoring - official sampling (with skin) ¹⁾		1	1	2	2	1
Meat from broilers (Gallus gallus) - fresh - skinned - at retail - domestic production - Monitoring - official sampling (chilled escalope)					1	
Meat from broilers (Gallus gallus) - fresh - with skin - at retail - domestic production - Monitoring - official sampling (chilled legs)	1		1			

Comments:

¹⁾ one sample positive both for S. Ferruch and S. agona

Footnote:

NRL for campylobacter and salmonella,

<http://www.ploufragan.afssa.fr/>

Same monitoring plan as the one with campylobacter:

- 361 analysis allocated between :

- 120 carcasses of fresh chicken, 120 skinned escalopes and 120 legs (with skin) taken at retail level (chilled)

Method of analyses:

- Detection method: Norme EN/ISO 6579

- Numeration method: Fravalo and al, 2003

On 13 positive samples, 11 are under limit detection method, < 1.3 cfu/g,

2 samples on carcasses >1.3 cfu/g, log10: 0.8 (S.Livingstone) and 2.6 (S. Typhimurium)

See specific TF for additional information

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), chiffonnettes, egg-shell.

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: Production period

--

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.

In France, we perform 2 rows of confirmation sampling in case of suspicion based on hatchery sampling. It means that if the first row is completely negative, we perform a second one.

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.

In France, we perform 2 rows of confirmation sampling in case of suspicion based on hatchery sampling. It means that if the first row is completely negative, we perform a second one.

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

A positive case is a flock where 2 rows of sampling give a positive result for Salmonella Enteritidis, Typhimurium, Hadar, Infantis, Virchow on at least one 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.

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

--

Measures in case of the positive findings or single cases

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

--

Notification system in place

Notification to central competent authorities is mandatory

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

--

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: Day-old chicks

Internal linings of delivery boxes

Broiler flocks: Before slaughter at farm

Other: Chiffonettes, bootswabs

Methods of sampling (description of sampling techniques)

Broiler flocks: Day-old chicks

--

Broiler flocks: Rearing period

--

Broiler flocks: Before slaughter at farm

--

Broiler flocks: At slaughter (flock based approach)

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

Case definition

Broiler flocks: Day-old chicks

--

Broiler flocks: Rearing period

--

Broiler flocks: Before slaughter at farm

If 1 sample is positive for ST or SE

Broiler flocks: At slaughter (flock based approach)

--

Vaccination policy

Broiler flocks

--

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

France - 2009 Report on trends and sources of zoonoses

Broiler flocks

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

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

Broiler flocks: Day-old chicks

--

Broiler flocks: Rearing period

--

Broiler flocks: Before slaughter at farm

--

Broiler flocks: At slaughter (flock based approach)

--

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. 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.

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

--

Laying hens: Rearing period

--

Laying hens: Production period

--

Laying hens: Before slaughter at farm

--

Laying hens: At slaughter

--

Eggs at packing centre (flock based approach)

--

Case definition

Laying hens: Day-old chicks

A positive case is a flock where 2 rows of sampling give a positive result for Salmonella Enteritidis or Typhimurium on at least one 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 where 2 rows of sampling give a positive result for Salmonella Enteritidis or Typhimurium on at least one 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 where 2 rows of sampling give a positive result for Salmonella Enteritidis or Typhimurium on at least one 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 where 2 rows of sampling give a positive result for Salmonella Enteritidis or Typhimurium on at least one 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

--

Eggs at packing centre (flock based approach)

--

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 live vaccines.

Other preventive measures than vaccination in place

Laying hens flocks

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

Laying hens flocks

All the positive flocks of pullets are slaughtered; slaughter of positive flocks of laying hens is also mandatory to get a financial compensation. In all cases, products are destroyed 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

--

Measures in case of the positive findings or single cases

Laying hens flocks

--

Notification system in place

Notification to central competent authorities is mandatory.

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. 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)

--

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)

--

Additional information

--

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

Monitoring system

Sampling strategy

Breeding flocks

--

Type of specimen taken

Imported feed material of animal origin

--

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

--

France - 2009 Report on trends and sources of zoonoses

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

--

G. Salmonella spp. in pigs

Monitoring system

Sampling strategy

Breeding herds

--

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

--

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

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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 breeding 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 disinfection is mandatory after any positive result. Heat treatment is mandatory if salmonella is found in muscles.

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

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)

--

Additional information

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Table Salmonella in breeding flocks of Gallus gallus

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	Salmonella spp., unspecified
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period	63	CCA	Flock	63	1	1					
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult	101	CCA	Flock	101	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period	877	CCA	Flock	877	5	2					
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult	1180	CCA	Flock	1180	20	2				0	
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - adult (including elite flocks, during production period)	152	CCA	Flock	152	1	1					
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - during rearing period (including elite flocks)	201	CCA	Flock	201	6						
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - adult (including elite flocks, during production period)	47	CCA	Flock	47	0						
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - during rearing period (including elite flocks)	22	CCA	Flock	22	0						

	Other serotypes	S. Indiana	S. Napoli	S. Newport	S. Rissen	S. Senftenberg
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period						

Table Salmonella in breeding flocks of Gallus gallus

	Other serotypes	S. Indiana	S. Napoli	S. Newport	S. Rissen	S. Senftenberg
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period	1	1	1			
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult	1		4		1	12
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - adult (including elite flocks, during production period)						
Gallus gallus (fowl) - grandparent breeding flocks for broiler production line - during rearing period (including elite flocks)	3		1	1		1
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - adult (including elite flocks, during production period)						
Gallus gallus (fowl) - grandparent breeding flocks for egg production line - during rearing period (including elite flocks)						

Footnote:

As indicated in the column "category", figures for grandparent breeding flocks includes figures for elite flocks and grand parent breeding flocks separated between rearing period and production (adult) period.

The figures are different from "the final report on technical execution of the national salmonella control program - breeding flocks of gallus gallus" 2009 transmitted to EC. In this EC report we have reported the number of layer pullet placements and the layer adult placement at rearing period and production period. (See "table susceptible animal population")

In this table, we report the number of existing flocks in the poultry houses during 2009.

Only Salmonella Enteritidis and Salmonella Typhimurium are tested, except for the last row of sampling (either for pullets an adult breeders) where all the serotypes are tested.

Table Salmonella in other poultry

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	Not typeable	Other serotypes	S. Agona
Gallus gallus (fowl) - laying hens - during rearing period	2067	CCA	Flock	2067	66	2	9		6	8	
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling	3657	CCA	Flock	3657	175	51	22		26	14	1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - sampling by industry	3657	CCA	Flock	3657	143	29	12		26	14	1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - objective sampling ¹⁾	3657	CCA	Flock	1918	24	19	5				
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - suspect sampling ²⁾	3657	CCA	Flock	200	73	51	22				
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling ³⁾	35913	CCA	Flock	35913	2898	78	109		3	237	17
	S. Albany	S. Altona	S. Anatum	S. Blockley	S. Braenderup	S. Brandenburg	S. Bredeney	S. Cubana	S. Derby	S. Hadar	S. Heidelberg
Gallus gallus (fowl) - laying hens - during rearing period				3							11
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling	2	1	1		4	3			1		

Table Salmonella in other poultry

	S. Albany	S. Altona	S. Anatum	S. Blockley	S. Braenderup	S. Brandenburg	S. Bredeney	S. Cubana	S. Derby	S. Hadar	S. Heidelberg
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - sampling by industry	2	1	1		4	3			1		
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - objective sampling ¹⁾											
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - suspect sampling ²⁾											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling ³⁾			1005	8	6	1	2	2	15	14	5

	S. Indiana	S. Infantis	S. Kedougou	S. Kentucky	S. Kottbus	S. Lexington	S. Lille	S. Livingstone	S. Mbandaka	S. Meleagridis	S. Montevideo
Gallus gallus (fowl) - laying hens - during rearing period	1	1				1		1	3		4
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling	2	7						12	4	1	9
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - sampling by industry	2	7						12	4	1	9
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - objective sampling ¹⁾											

Table Salmonella in other poultry

	S. Indiana	S. Infantis	S. Kedougou	S. Kentucky	S. Kottbus	S. Lexington	S. Lille	S. Livingstone	S. Mbandaka	S. Meleagridis	S. Montevideo
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - suspect sampling ²⁾											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling ³⁾	87	22	66	3	13		38	530	152	1	115

	S. Napoli	S. Newport	S. Ohio	S. Paratyphi B var. Java	S. Rissen	S. Saintpaul	S. Schwarzengrund	S. Senftenberg	S. Tennessee	S. Thompson	S. Virchow
Gallus gallus (fowl) - laying hens - during rearing period					1			14			1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling	2	1	1		1			7			2
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - sampling by industry	2	1	1		1			7			2
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - objective sampling ¹⁾											
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - suspect sampling ²⁾											
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling ³⁾	36	42	5	8	1	12	10	202	5	1	47

Table Salmonella in other poultry

Comments:

- 1) The official sampling objective targeted by EC regulation is reached. The difference between units tested and number of existing flocks is due to the fact that we don't have the number of flocks in the 1879 farms that have more than 1000 birds. In these 1879 farms, more one that one flock has been tested. For total units tested and for positive units, our data collection system doesn't allow us to distinguish "suspect sampling" item b, point 2.1 of the annex of Reg. 1168/2006 and objective samplings item a.
- 2) All the suspect flocks are tested as mentioned in EC regulation. All detected as positive by the operators are considered as suspect flocks and confirmed (item "e" of point 2.1 of annex of Reg/1168.2006). The number of units tested is an evaluation, because we don't have the data collection system to distinguish precisely the five categories (a, b, c, d, e) of official control (Point 2.1 Annex of Reg (EC) N°1168/2006). The categories reported here are "c", "d" and "e". For information, c = 98 tested.
- 3) The number of existing flocks would be more between 75 000 and 100 000 flocks (estimation) We still do not receive all the negative analyses. The national data collection system will be fully reliable and available in 2011. For the units positive, two flocks were positive with the two serotypes S. Enteritidis and S Typhimurium.

Footnote:

For pullets and laying hens: the figures are different from "Final report on technical execution of the national salmonella control program" 2009 transmitted to EC. In this EC report we have reported the number of layer pullets placements at rearing period and production period. (See "table susceptible animal population")
In this prevalence table, we report the number of existing flocks in the poultry houses during 2009.

Only Salmonella Enteritidis and Salmonella Typhimurium are tested, except for the last row of samplings (either for pullets or laying hens) where all the serotypes are tested. This last sampling is done most of the time by the food business operator, or by the local competent authority. At the moment, the french system to collect the origin of the sampler for each serotype detected is not available. The choice in the prevalence table is to put 100 % of "other serotypes" than SE or ST coming from industry samplings.

2.1.5 Salmonella in feedingstuffs

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Anatum	S. Cerro	S. Livingstone
Pet food - dog snacks (pig ears, chewing bones)	CCA	Batch	500g	3	0						
Compound feedingstuffs for cattle - final product - at feed mill - domestic production - Surveillance - official controls	CCA/DGCCR F	Batch	500g	21	0						
Compound feedingstuffs for horses - final product - at feed mill - domestic production - Surveillance - official controls	CCA	Batch	500g	1	0						
Compound feedingstuffs for pigs - final product - at feed mill - domestic production - Surveillance - HACCP and own checks ¹⁾	industry	Batch	500g	249	0						
Compound feedingstuffs for pigs - final product - at feed mill - domestic production - Surveillance - official controls	CCA/DGCCR F	Batch	500g	76	1			1			
Compound feedingstuffs for poultry (non specified) - final product - at feed mill - domestic production - Surveillance - HACCP and own checks (other flesh poultry)	industry	Batch	500g	211	0						
Compound feedingstuffs for poultry (non specified) - final product - at feed mill - domestic production - Surveillance - official controls	CCA/DGCCR F	Batch	500g	158	0						
Compound feedingstuffs for poultry (non specified) - final product - non-pelleted/meal - at feed mill - domestic production - Surveillance - HACCP and own checks ²⁾	industry	Batch	500g	144	1			1			

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified	S. Anatum	S. Cerro	S. Livingstone
Compound feedingstuffs for poultry (non specified) - final product - pelleted - at feed mill - domestic production - Surveillance - HACCP and own checks ³⁾	industry	Batch	100g	113	0						
Compound feedingstuffs for poultry - broilers - final product - at feed mill - domestic production - Surveillance - official controls	DGCCRF	Batch	100g	53	0						
Compound feedingstuffs for poultry - broilers - final product - non-pelleted/meal - at feed mill - domestic production - Surveillance - HACCP and own checks ⁴⁾	industry	Batch	100g	127	2				1		
Compound feedingstuffs for poultry - broilers - final product - pelleted - at feed mill - domestic production - Surveillance - HACCP and own checks	industry	Batch	100g	325	2						
Compound feedingstuffs for poultry - laying hens - final product - at feed mill - domestic production - Surveillance - official controls	DGCCRF	Batch	100g	72	0						
Compound feedingstuffs for poultry - laying hens - final product - non-pelleted/meal - at feed mill - domestic production - Surveillance - HACCP and own checks ⁵⁾	industry	Batch	100g	712	5					1	2
Compound feedingstuffs for poultry - laying hens - final product - pelleted - at feed mill - domestic production - Surveillance - HACCP and own checks	industry	Batch	100g	179	1			1			
Compound feedingstuffs for poultry -breeders - final product - at feed mill - domestic production - Surveillance - HACCP and own checks (Egg production line)	industry	Batch	100g	513	0						

Table Salmonella in compound feedingstuffs

	S. Mbandaka	S. Meleagridis	S. Montevideo	S. Senftenberg
Compound feedingstuffs for poultry (non specified) - final product - at feed mill - domestic production - Surveillance - official controls				
Compound feedingstuffs for poultry (non specified) - final product - non-pelleted/meal - at feed mill - domestic production - Surveillance - HACCP and own checks ²⁾				
Compound feedingstuffs for poultry (non specified) - final product - pelleted - at feed mill - domestic production - Surveillance - HACCP and own checks ³⁾				
Compound feedingstuffs for poultry - broilers - final product - at feed mill - domestic production - Surveillance - official controls				
Compound feedingstuffs for poultry - broilers - final product - non-pelleted/meal - at feed mill - domestic production - Surveillance - HACCP and own checks ⁴⁾		1		
Compound feedingstuffs for poultry - broilers - final product - pelleted - at feed mill - domestic production - Surveillance - HACCP and own checks	1		1	
Compound feedingstuffs for poultry - laying hens - final product - at feed mill - domestic production - Surveillance - official controls				
Compound feedingstuffs for poultry - laying hens - final product - non-pelleted/meal - at feed mill - domestic production - Surveillance - HACCP and own checks ⁵⁾	1			1

Table Salmonella in compound feedingstuffs

	S. Mbandaka	S. Meleagridis	S. Montevideo	S. Senftenberg
Compound feedingstuffs for poultry - laying hens - final product - pelleted - at feed mill - domestic production - Surveillance - HACCP and own checks				
Compound feedingstuffs for poultry -breeders - final product - at feed mill - domestic production - Surveillance - HACCP and own checks (Egg production line)				
Compound feedingstuffs for rabbits - final product - at feed mill - domestic production - Surveillance - official controls				
Compound feedingstuffs for turkeys - final product - at feed mill - domestic production - Surveillance - HACCP and own checks				

Comments:

- 1) Allocation: 74 samples for fattening pigs feed, 74 for breeding pigs feed and 101 for piglets feed
- 2) Feed for laying hens during rearing period - untreated Flour 123 samplings, heat-treated flour (21 samples, O positive)
- 3) Feed for laying hens during rearing period
- 4) Allocation: non treated flour, 111 samples, heat-treated flour 16 samples (O positive)
- 5) Allocation: untreated flour 696, heattreatment flour 16, Positive results are on non-treated flour.

Footnote:

Sampling is made in accordance with Directive 76/371/EC, in the frame of Reg. (EC)183/2005 and 882/2004 and according french instruction DGAL/SDSPA/N2008-8311.

The samples are done during surveillance plant for unwanted substances in feedstuff (Dir. 2002/32/EC and others), allocated by french regions and according risk analysis (local production, numbers of farmers users, numbers of farmers producers)

A part of the results (206 analysis) comes from General directorate for competition policy, consumer affairs and fraud control (DGCCRF) which depends of the french ministry of Economy.

A coordination meeting is made every year to allocate the samplings between general directorate for food and DGCCRF.

An other part of the results (2653 analysis) comes from industry: National trade union of industrial feed producers (coop de France nutrition animale, association des fabricants de compléments pour l'alimentation animale

Table Salmonella in other feed matter

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Feed material of cereal grain origin - barley derived	DGCCRF	Batch	100g	5	0			
Feed material of cereal grain origin - maize	DGCCRF	Batch	100g	14	1		1	
Feed material of cereal grain origin - other cereal grain derived	DGCCRF	Batch	100g	16	0			
Feed material of cereal grain origin - wheat derived	DGCCRF	Batch	100g	31	0			
Feed material of oil seed or fruit origin - groundnut derived	CCA	Batch	500g	6	0			
Feed material of oil seed or fruit origin - linseed derived	DGCCRF	Batch	100g	2	0			
Feed material of oil seed or fruit origin - other oil seeds derived	DGCCRF	Batch	500g	3	0			
Feed material of oil seed or fruit origin - rape seed derived	DGCCRF/CC A	Batch	500g	52	0			
Feed material of oil seed or fruit origin - soya (bean) derived	DGCCRF	Batch	100g	73	0			
Feed material of oil seed or fruit origin - sunflower seed derived	DGCCRF	Batch	100g	31	1	1		
Other feed material - other plants	DGCCRF/CC A	Batch	500g	4	0			
Other feed material - other seeds and fruits	DGCCRF/CC A	Batch	500g	2	0			

Footnote:

A part of the results (222 analysis) comes from General directorate for competition policy, consumer affairs and fraud control (DGCCRF) which depends of the french ministry of Economy.
A coordination meeting is made every year to allocate the samplings between general directorate for food and DGCCRF.

Table Salmonella in feed material of animal origin

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Feed material of marine animal origin - fish meal - at feed mill - domestic production - Surveillance - official controls	CCA	Batch	500	55	0			
Feed material of marine animal origin - other fish products - at feed mill - domestic production - Surveillance - official controls ¹⁾	DGCCRF	Batch	100g	1	0			

Comments:

¹⁾ Oyster shell

Footnote:

A part of the results comes from General directorate for competition policy, consumer affairs and fraud control (DGCCRF) which depends of the french ministry of Economy. A coordination meeting is made every year to allocate the samplings between general directorate for food and DGCCRF.

2.1.6 Salmonella serovars and phagetype distribution

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

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Other poultry	
	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical
Sources of isolates								
Number of isolates in the laboratory					3172			
Number of isolates serotyped	0	0	0	0	3172	0	0	0
Number of isolates per serovar								
Not typeable					35			
Other serotypes					259			
S. Agona					18			
S. Albany					2			
S. Altona					1			
S. Anatum					1006			

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Other poultry	
	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical
Sources of isolates								
Number of isolates in the laboratory					3172			
Number of isolates serotyped	0	0	0	0	3172	0	0	0
Number of isolates per serovar								
S. Blockley					11			
S. Brandenburg					10			
S. Bredeney					2			
S. Cubana					2			
S. Derby					16			
S. Enteritidis					137			
S. Hadar					14			
S. Heidelberg					16			
S. Indiana					91			
S. Infantis					30			
S. Kedougou					66			
S. Kentucky					3			

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Other poultry	
	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical
Sources of isolates								
Number of isolates in the laboratory					3172			
Number of isolates serotyped	0	0	0	0	3172	0	0	0
Number of isolates per serovar								
S. Kottbus					13			
S. Lexington					13			
S. Lille					38			
S. Livingstone					543			
S. Mbandaka					159			
S. Meleagridis					2			
S. Montevideo					128			
S. Napoli					44			
S. Newport					44			
S. Ohio					6			
S. Paratyphi B var. Java					8			
S. Rissen					4			

Table Salmonella serovars in animals

Serovar	Cattle (bovine animals)		Pigs		Gallus gallus (fowl)		Other poultry	
	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical	Monitoring	Clinical
Sources of isolates								
Number of isolates in the laboratory					3172			
Number of isolates serotyped	0	0	0	0	3172	0	0	0
Number of isolates per serovar								
S. Saintpaul					12			
S. Schwarzengrund					10			
S. Senftenberg					236			
S. Tennessee					5			
S. Thompson					1			
S. Typhimurium					140			
S. Virchow					47			

Footnote:

This covers information from breeding flocks, laying hen flocks and broiler flocks.

2.1.7 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 recommended 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

--

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

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 recommended 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 IERQAP

Unité de caractérisation 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 data 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 *Salmonella* spp. in Meat from broilers (*Gallus gallus*) - meat products - at retail - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (<i>Gallus gallus</i>) - meat products - at retail - Monitoring - official sampling - objective sampling																									
	yes																									
	14																									
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest	
Amphenicols - Chloramphenicol	16	14	1									0	2	11	0	0	0	1							2	64
Tetracyclines - Tetracycline	8	14	1								1	12	0	0	0	0	0	1							1	64
Fluoroquinolones - Ciprofloxacin	0.06	14	0	0	3	11	0	0	0	0	0	0	0	0											0.008	8
Quinolones - Nalidixic acid	16	14	0										11	3	0	0	0								4	64
Trimethoprim	2	14	0							14	0	0	0	0	0	0									0.5	32
Sulfonamides - Sulfonamide	256	14	1											1	0	1	7	4	0	0	0	1			8	1024
Aminoglycosides - Streptomycin	32	14	1									0	0	7	5	1	1	0							2	128
Aminoglycosides - Gentamicin	2	14	0						5	9	0	0	0	0	0	0									0.25	32
Penicillins - Ampicillin	4	14	0							0	10	3	1	0	0	0									0.5	32
Cephalosporins - Cefotaxim	0.5	14	0				5	8	1	0	0	0	0												0.06	4
Cephalosporins - Ceftazidim	2	14	0						8	6	0	0	0	0	0										0.25	16

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

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

S. Typhimurium	Gallus gallus (fowl) - laying hens - at farm - environmental sample - Control and eradication programmes - official sampling - objective sampling																											
	Isolates out of a monitoring program (yes/no)																											
	Number of isolates available in the laboratory																											
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest			
Amphenicols - Chloramphenicol	16	19	6									0	12	1	0	0	0	6							2	64		
Amphenicols - Florfenicol	2	19	19									0	13	0	0	4	0	2							2	64		
Tetracyclines - Tetracycline	8	19	10								0	9	0	0	0	3	3	4							1	64		
Fluoroquinolones - Ciprofloxacin	0.06	19	0	0	5	14	0	0	0	0	0	0	0	0											0.008	8		
Quinolones - Nalidixic acid	16	19	0										18	1	0	0	0								4	64		
Trimethoprim	2	19	1							18	0	0	0	0	0	0	1								0.5	32		
Sulfonamides - Sulfonamide	256	19	11											2	0	1	3	2	0	0	0	11			8	1024		
Aminoglycosides - Streptomycin	32	19	9									0	0	8	2	0	4	1	4						2	128		
Aminoglycosides - Gentamicin	2	19	0						11	4	3	1	0	0	0	0									0.25	32		
Penicillins - Ampicillin	4	19	7							0	10	2	0	0	0	0	7								0.5	32		
Cephalosporins - Cefotaxim	2	19	1				14	4	0	0	0	0	0	1											0.06	4		
Cephalosporins - Ceftazidim	2	19	1						17	1	0	0	1	0	0										0.25	16		

Table Antimicrobial susceptibility testing of Other serotypes in Gallus gallus (fowl) - laying hens - at farm - environmental sample - Control and eradication programmes - official sampling - objective sampling - quantitative data [Dilution method]

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

Other serotypes	Gallus gallus (fowl) - laying hens - at farm - environmental sample - Control and eradication programmes - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Amphenicols - Chloramphenicol	16	90	0									0	32	58	0	0	0								2	64	
Amphenicols - Florfenicol	2	90	88									2	75	13	0	0	0								2	64	
Tetracyclines - Tetracycline	8	90	10								3	77	0	0	1	0	1	8							1	64	
Fluoroquinolones - Ciprofloxacin		90	1	0	40	49	0	0	1	0	0	0	0	0											0.008	8	
Quinolones - Nalidixic acid	16	90	1										87	2	0	0	0	1							4	64	
Trimethoprim	2	90	3							86	1	0	0	0	0	0	3								0.5	32	
Sulfonamides - Sulfonamide	256	90	8											0	1	15	47	19	0	0	0	8			8	1024	
Aminoglycosides - Streptomycin	16	90	3									1	16	48	17	5	0	1	2	0	0				2	128	
Aminoglycosides - Gentamicin	2	90	0						47	39	4	0	0	0	0	0									0.25	32	
Penicillins - Ampicillin	4	90	5							0	66	18	1	0	0	0	5								0.5	32	
Cephalosporins - Cefotaxim	0.5	90	0				35	48	7	0	0	0	0												0.06	4	
Cephalosporins - Ceftazidim	2	90	0						45	42	3	0	0	0	0										0.25	16	

Table Antimicrobial susceptibility testing of Salmonella spp. in Gallus gallus (fowl) - laying hens - at farm - environmental sample - Control and eradication programmes - official sampling - objective sampling - quantitative data [Dilution method]

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - laying hens - at farm - environmental sample - Control and eradication programmes - official sampling - objective sampling																											
	yes																											
	171																											
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest			
Amphenicols - Chloramphenicol	16	171	6								0	89	76	0	0	0	6								2	64		
Amphenicols - Florfenicol	2	171	169									2	148	15	0	4	0	2							2	64		
Tetracyclines - Tetracycline	8	171	25								14	132	0	0	1	3	5	16							1	64		
Fluoroquinolones - Ciprofloxacin	0.06	171	2	0	74	95	0	0	2	0	0	0	0	0											0.08	8		
Quinolones - Nalidixic acid	16	171	2										166	3	0	0	0	2							4	64		
Trimethoprim		171	4							165	2	0	0	0	0	0	4								0.5	32		
Sulfonamides - Sulfonamide	256	171	24											2	4	31	87	23	0	0	0	24			8	1024		
Aminoglycosides - Streptomycin	16	171	16									24	46	61	19	5	7	2	7						2	128		
Aminoglycosides - Gentamicin	2	171	2						103	58	7	1	0	1	1	0									0.25	32		
Penicillins - Ampicillin		171	14							0	107	48	2	1	0	0	13								0.5	32		
Cephalosporins - Cefotaxim	0.5	171	1				88	71	10	1	0	0	0	1											0.06	4		
Cephalosporins - Ceftazidim	2	171	1						120	47	3	0	1	0	0										0.25	16		

Table Antimicrobial susceptibility testing of *Salmonella* spp. in *Gallus gallus* (fowl) - broilers - unspecified - at farm - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

Salmonella spp. Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - unspecified - at farm - Monitoring - official sampling - objective sampling																											
	yes																											
	189																											
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest			
Amphenicols - Chloramphenicol	16	189	13									2	22	144	8	5	0	8							2	64		
Amphenicols - Florfenicol	16	189	185									4	81	93	8	2	0	1							2	64		
Tetracyclines - Tetracycline		189	22								9	145	8	5	0	1	2	19							1	64		
Fluoroquinolones - Ciprofloxacin	0.06	189	9	3	51	120	6	0	7	1	1	0	0	0											0.008	8		
Quinolones - Nalidixic acid		189	9										156	22	2	0	0	9							4	64		
Trimethoprim		189	14							164	11	0	0	0	0	0	14								0.5	32		
Sulfonamides - Sulfonamide	256	189	32											0	6	14	88	46	3	0	0	32			8	1024		
Aminoglycosides - Streptomycin	32	189	12									0	12	96	61	8	7	2	3						2	128		
Aminoglycosides - Gentamicin	4	189	1						88	94	6	0	0	0	1	0									0.25	32		
Penicillins - Ampicillin	4	189	22							3	119	36	9	2	1	0	19								0.5	32		
Cephalosporins - Cefotaxim	0.5	189	1				34	135	14	5	1	0	0												0.06	4		
Cephalosporins - Ceftazidim	2	189	0						70	108	9	2	0	0	0										0.25	16		

Table Antimicrobial susceptibility testing of S. Enteritidis - Other in Gallus gallus (fowl) - broilers - at farm - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

Other	Gallus gallus (fowl) - broilers - at farm - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Amphenicols - Chloramphenicol	16	3	0									0	0	3	0	0	0								2	64	
Amphenicols - Florfenicol	2	3	3									0	3	0	0	0	0								2	64	
Tetracyclines - Tetracycline	8	3	0								1	2	0	0	0	0	0								1	64	
Fluoroquinolones - Ciprofloxacin	0.06	3	0	0	0	3	0	0	0	0	0	0	0	0											0.008	8	
Quinolones - Nalidixic acid	16	3	0										3	0	0	0	0								4	64	
Trimethoprim		3	0							3	0	0	0	0	0	0									0.5	32	
Sulfonamides - Sulfonamide	256	3	0											0	0	1	2	0	0	0					8	1024	
Aminoglycosides - Streptomycin	16	3	0									1	2	0	0	0	0	0							2	128	
Aminoglycosides - Gentamicin	2	3	0						3	0	0	0	0	0	0	0									0.25	32	
Penicillins - Ampicillin	4	3	0							0	2	1	0	0	0	0									0.5	32	
Cephalosporins - Cefotaxim	0.5	3	0				1	2	0	0	0	0	0												0.06	4	
Cephalosporins - Ceftazidim	2	3	0						3	0	0	0	0	0	0										0.25	16	

Table Antimicrobial susceptibility testing of *S. Typhimurium* - Other in *Gallus gallus* (fowl) - broilers - unspecified - at farm - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

Other	Gallus gallus (fowl) - broilers - unspecified - at farm - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Amphenicols - Chloramphenicol	16	9	3									0	2	4	0	0	0	3							2	64	
Amphenicols - Florfenicol	2	9	9									0	6	0	0	2	0	1							2	64	
Tetracyclines - Tetracycline	8	9	4								0	5	0	0	0	1	2	1							1	64	
Fluoroquinolones - Ciprofloxacin	0.06	9	1	0	1	7	0	0	1	0	0	0	0	0											0.008	8	
Quinolones - Nalidixic acid	16	9	1										7	1	0	0	0	1							4	64	
Trimethoprim		9	1							8	0	0		0	0	0	0	1							0.5	32	
Sulfonamides - Sulfonamide	256	9	6											0	0	0	2	1	0	0	0	6			8	1024	
Aminoglycosides - Streptomycin	32	9	4									0	0	5	0	0	4	0							2	128	
Aminoglycosides - Gentamicin	2	9	0						5	4	0	0	0	0	0	0									0.25	32	
Penicillins - Ampicillin	4	9	4							0	5	0	0	0	0	0	4								0.5	32	
Cephalosporins - Cefotaxim	0.5	9	0				4	5	0	0	0	0	0												0.06	4	
Cephalosporins - Ceftazidim	2	9	0						8	1	0	0	0	0	0										0.25	16	

Table Antimicrobial susceptibility testing of Other serotypes in Gallus gallus (fowl) - broilers - unspecified - at farm - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

Other serotypes	Gallus gallus (fowl) - broilers - unspecified - at farm - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Amphenicols - Chloramphenicol	16	177	10									2	20	137	8	5	0	5							2	64	
Amphenicols - Florfenicol	16	177	173									4	72	93	8	0	0								2	64	
Tetracyclines - Tetracycline	8	177	18								8	138	8	5	0	0	0	18							1	64	
Fluoroquinolones - Ciprofloxacin	0.06	177	8	3	50	110	6	0	6	1	1	0	0	0											0.008	8	
Quinolones - Nalidixic acid	16	177	8										146	21	2	0	0	8							4	64	
Trimethoprim	2	177	13							153	11	0	0	0	0	0	13								0.5	32	
Sulfonamides - Sulfonamide	256	177	26									0	0	0	6	13	84	45	3	0	0	26			8	1024	
Aminoglycosides - Streptomycin	32	177	8									0	9	91	61	8	3	2	3						2	128	
Aminoglycosides - Gentamicin	4	177	1						80	90	6	0	0	0	1	0									0.25	32	
Penicillins - Ampicillin	4	177	18							3	112	35	9	2	1	0	15								0.5	32	
Cephalosporins - Cefotaxim	2	177	1				29	128	14	5	1	0													0.06	4	
Cephalosporins - Ceftazidim	2	177	0						59	107	9	2	0	0	0										0.25	16	

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - laying hens - at farm - environmental sample - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

S. Enteritidis	Gallus gallus (fowl) - laying hens - at farm - environmental sample - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	62																										
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Amphenicols - Chloramphenicol	16	62	0									0	45	17	0	0	0								2	64	
Amphenicols - Florfenicol	2	62	62									0	60	2	0	0	0								2	64	
Tetracyclines - Tetracycline	8	62	5								11	46	0	0	0	0	1	4							1	64	
Fluoroquinolones - Ciprofloxacin	0.06	62	1	0	29	32	0	0	1	0	0	0	0	0											0.008	8	
Quinolones - Nalidixic acid	16	62	1										61	0	0	0	0	1							4	64	
Trimethoprim		62	0							61	1	0	0	0	0	0									0.5	32	
Sulfonamides - Sulfonamide	256	62	5											0	3	15	37	2	0	0	0	5			8	1024	
Aminoglycosides - Streptomycin	16	62	4									23	30	5	0	0	3	0	1						2	128	
Aminoglycosides - Gentamicin	4	62	2						45	15	0	0	0	1	1	0									0.25	32	
Penicillins - Ampicillin	4	62	2							0	31	28	1	1	0	0	1								0.5	32	
Cephalosporins - Cefotaxim	0.5	62	0				39	19	3	1	0	0	0												0.06	4	
Cephalosporins - Ceftazidim	2	62	0						58	4	0	0	0	0	0										0.25	16	

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

Test Method Used	Standard methods used for testing
Broth dilution	LCR AMR

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	
	Florfenicol		2	
Tetracyclines	Tetracycline		8	
Fluoroquinolones	Ciprofloxacin		0.06	
Quinolones	Nalidixic acid		16	
Trimethoprim	Trimethoprim		2	
Sulfonamides	Sulfonamide		256	
Aminoglycosides	Streptomycin		32	
	Gentamicin		2	
	Kanamycin		16	
Cephalosporins	Cefotaxim		0.5	
	Ceftazidim		2	
Penicillins	Ampicillin		4	

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

Test Method Used
Broth dilution

Standard methods used for testing
LCR AMR

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	
	Florfenicol		2	
Tetracyclines	Tetracycline		8	
Fluoroquinolones	Ciprofloxacin		0.06	
Quinolones	Nalidixic acid		16	
Trimethoprim	Trimethoprim		2	
Sulfonamides	Sulfonamide		256	
Aminoglycosides	Streptomycin		32	
	Gentamicin		2	
	Kanamycin		16	
Cephalosporins	Cefotaxim		0.5	
	Ceftazidim		2	
Penicillins	Ampicillin		4	

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 <=
Amphenicols	Chloramphenicol		16	
Tetracyclines	Tetracycline		8	
Fluoroquinolones	Ciprofloxacin		0.06	
Quinolones	Nalidixic acid		16	
Trimethoprim	Trimethoprim		2	
Sulfonamides	Sulfonamides		256	
Aminoglycosides	Streptomycin		32	
	Gentamicin		2	
Cephalosporins	Cefotaxim		0.5	
Penicillins	Ampicillin		4	

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/>

Table Campylobacter in poultry meat

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Meat from broilers (Gallus gallus) - carcass - chilled - at retail - domestic production - Monitoring - official sampling ¹⁾	CCA	Single	1g	120	108	62	65			
Meat from broilers (Gallus gallus) - fresh - skinned - at retail - domestic production - Monitoring - official sampling - objective sampling (chilled escalope) ²⁾	CCA	Single	1g	120	64	29	43			
Meat from broilers (Gallus gallus) - fresh - with skin - at retail - domestic production - Monitoring - official sampling (chilled chicken legs) ³⁾	CCA	Single	1g	121	103	55	70			

Comments:

- ¹⁾ Some samples are positive both for C. Jejuni and C. Coli
- ²⁾ Some samples are positive both for C. Jejuni and C. Coli
- ³⁾ Some samples are positive both for C. Jejuni and C. Coli

Footnote:

Sampled analysed by NLR for campylobacter and salmonella in Ploufragan (AFSSA).

<http://www.ploufragan.afssa.fr/>

Same monitoring plan as the one with salmonella:

The aim of this monitoring plan was to analyse salmonella and campylobacter at retail level (chilled) on 3 sorts of chicken products to complete Eu baseline study (cf. result in the 2008 report).

- 361 analysis allocated between :

120 Carcasses fresh : 28g neck skin and lateral part of the wishbone

120 Legs with skin: 28g of surface skin

121 Skinned escalope 28g muscle

Only 1g is this sample is taken for campylobacter analysis

Detection method: part 1 NF EN ISO 10272

Numeration method: part 2 NF EN ISO 10272

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

Table Campylobacter in animals

	Source of information	Sampling unit	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Gallus gallus (fowl) - broilers - at slaughterhouse - animal sample - caecum - Monitoring - official sampling	CCA	Animal	191	154	82	32			40
Pigs - fattening pigs - at slaughterhouse - animal sample - faeces - Monitoring - official sampling	CCA	Animal	174	117	76	4			37

Footnote:

Samples were done during the monitoring plan for antimicrobial resistance of campylobacter in poultry and pigs made in accordance with Dir. EC 2003-99 in a representative way: geographical, gross production, month.

Samples:

- For broiler: 2 caeca per broiler sampled
- For fattening pigs: 25g of faeces sampled in the rectum

10 minutes after slaughtering

Lab. for campylobacter (NRL): AFSSA- Ploufragan

Lab. for antimicrobial resistance: NRL AFSSA- Fougères

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 slaughterhouses.

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 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

--

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	Campylobacter spp., unspecified		C. coli		C. jejuni	
			yes		yes	
Isolates out of a monitoring program (yes/no)			76		4	
Number of isolates available in the laboratory			76		4	
Antimicrobials:	N	n	N	n	N	n
Fluoroquinolones - Ciprofloxacin			76	26	4	1
Aminoglycosides - Gentamicin			76	0	4	0
Macrolides - Erythromycin			76	34	4	0
Tetracyclines - Tetracycline			76	70	4	3
Fully sensitive			76	1	4	0
Resistant to 1 antimicrobial			76	10	4	2
Resistant to 2 antimicrobials			76	27	4	2
Resistant to 3 antimicrobials			76	27	4	0
Resistant to 4 antimicrobials			76	11	4	0
Resistant to >4 antimicrobials			76	0	4	0
Aminoglycosides - Streptomycin			76	59	4	2

Footnote:

Multiresistance has been tested for the following antimicrobials : tetracycline, ciprofloxacin, streptomycin, gentamicin, erythromycin.

Table Antimicrobial susceptibility testing of *Campylobacter* in *Gallus gallus* (fowl) - broilers - unspecified

Campylobacter	C. coli		C. jejuni	
	Isolates out of a monitoring program (yes/no)	yes		yes
Number of isolates available in the laboratory	81		32	
Antimicrobials:	N	n	N	n
Tetracyclines - Tetracycline	81	74	32	17
Fluoroquinolones - Ciprofloxacin	81	59	32	9
Aminoglycosides - Streptomycin	81	5	32	0
Aminoglycosides - Gentamicin	81	0	32	0
Fully sensitive	81	2	32	11
Macrolides - Erythromycin	81	13	32	0
Resistant to 1 antimicrobial	81	23	32	16
Resistant to 2 antimicrobials	81	40	32	5
Resistant to 3 antimicrobials	81	16		

Footnote:

multiresistance has been tested for the following antimicrobials : tetracycline, ciprofloxacin, streptomycin, gentamycin, erythromycin.

Table Antimicrobial susceptibility testing of *C. jejuni* in *Gallus gallus* (fowl) - broilers - unspecified - quantitative data [Dilution method]Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

C. jejuni	Gallus gallus (fowl) - broilers - unspecified																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Amphenicols - Chloramphenicol	16	32	0									27	5												2	32	
Tetracyclines - Tetracycline	2	32	17						12	2	1	0	1	0	0	16									0.25	16	
Fluoroquinolones - Ciprofloxacin	1	32	9				2	15	3	3	0	0	0	9											0.06	4	
Quinolones - Nalidixic acid	16	32	8									4	14	4	2	0	4	4							2	64	
Aminoglycosides - Streptomycin	2	32	0								26	6													1	16	
Aminoglycosides - Gentamicin	1	32	0					2	19	11															0.25	16	
Macrolides - Erythromycin	4	32	0							29	3														0.5	32	

Table Antimicrobial susceptibility testing of *C. jejuni* in Pigs - at slaughterhouse - Monitoring - quantitative data [Dilution method]Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

C. jejuni	Pigs - at slaughterhouse - Monitoring																									
	Isolates out of a monitoring program (yes/no)																									
	yes																									
Antimicrobials:	Number of isolates available in the laboratory																									
	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest	
Amphenicols - Chloramphenicol	16																							2	32	
Tetracyclines - Tetracycline	2	4	3						1							3									0.25	16
Fluoroquinolones - Ciprofloxacin	1	4	1				1	2						1											0.06	4
Quinolones - Nalidixic acid	16	4	1									1	2					1							2	64
Aminoglycosides - Streptomycin	2	4	2									2				2									1	16
Aminoglycosides - Gentamicin	1	4	0							2	2														0.25	16
Macrolides - Erythromycin	4	4	0							4															0.5	32

Footnote:

Breakpoint: EUCAST

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

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

C. coli	Gallus gallus (fowl) - broilers - at slaughterhouse - Monitoring - official sampling																									
	Isolates out of a monitoring program (yes/no)																									
Antimicrobials:	Number of isolates available in the laboratory																									
	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	
Tetracyclines - Tetracycline	2	81	74						7						2	72										
Fluoroquinolones - Ciprofloxacin	1	81	59				3	13	6				1	58	0	0	0	0								
Quinolones - Nalidixic acid	32	81	45									1	17	3	1	14	41	4								
Aminoglycosides - Streptomycin	8	81	6								36	39	1		1	4										
Aminoglycosides - Gentamicin	2	81	0					6	21	52	2															
Macrolides - Erythromycin	16	81	13							44	20	4				13										

Footnote:

Standard for breakpoints : EUCAST

Table Antimicrobial susceptibility testing of *C. coli* in Pigs - fattening pigs - at slaughterhouse - Monitoring - official sampling - quantitative data
 [Dilution method]

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

C. coli	Pigs - fattening pigs - at slaughterhouse - Monitoring - official sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Amphenicols - Chloramphenicol	16																										
Amphenicols - Florfenicol		7	7			0																					
Tetracyclines - Tetracycline	2	76	70						5			1	6	4	13	47											
Fluoroquinolones - Ciprofloxacin	1	76	26				20	23	7	0	0	0	0	26													
Quinolones - Nalidixic acid	32	76	22									3	31	16	0	4	19	3									
Aminoglycosides - Streptomycin	2	76	75								0	1	16	10	0	49	0	0									
Aminoglycosides - Gentamicin	2	76	0					0	0	19	57																
Macrolides - Erythromycin	16	76	34							24	17	0	1	0	0	1	33										

Footnote:

Standard for break points: EUCAST

Table Cut-off values used for antimicrobial susceptibility testing of Campylobacter in Animals

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

		Concentration (microg/ml)		Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Quinolones	Nalidixic acid		16	
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Macrolides	Erythromycin		4	
Amphenicols	Chloramphenicol		16	

Footnote:

breakpoints used for antimicrobial susceptibility testing of campylobacter jejuni.

Other breakpoints are used for Campylobacter coli strains. The laboratory has also available data on antimicrobial resistance for Campylobacter coli but they couldn't be reported on the qualitative tables because of the lack of possibility to report separately for Campylobacter coli and campylobacter jejuni.

If you need to have breakpoints used for C. Coli please contact the reporter officer.

Table Cut-off values used for antimicrobial susceptibility testing of Campylobacter in Food

Test Method Used

Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Macrolides	Erythromycin		4	

Table Cut-off values used for antimicrobial susceptibility testing of Campylobacter in Feed

Test Method Used

Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Macrolides	Erythromycin		4	

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 demonstrate by accurate 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 other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Listeria	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogenes > 100 cfu/g
Meat from pig - meat preparation - intended to be eaten cooked - chilled - at retail - domestic production - Monitoring - official sampling ((lardons - sliced bacon))	CCA	Single	25g	139	17	139	17	17	1	0
Meat from pig - meat preparation - intended to be eaten cooked - chilled - at retail - domestic production - Monitoring - official sampling (bacon)	CCA	Single	25g	142	1	142	1	1	0	0
Meat from pig - meat products - cooked, ready-to-eat - chilled - at retail - domestic production - Monitoring - official sampling (salami, francfort sausage, mortadella, saveloy..)	CCA	Single	25g	135	3	135	3	0	0	0
Meat from pig - meat products - pate - at retail - domestic production - Monitoring - official sampling (chilled) ¹⁾	CCA	Single	25g	137	2	137	2	2	0	1
Meat from pig - meat products - raw but intended to be eaten cooked - chilled - at retail - domestic production - Monitoring - official sampling ²⁾	CCA	Single	25g	139	32	139	32	32	1	0

Comments:

¹⁾ Only one positive > 10 CFU/g, Value 1400 CFU/g

²⁾ sausage- only 1 Positive > 10 CFU/g, value: 50 CFU/g

Footnote:

Analysed done by accredited lab (COFRAC)

- search for presence of L. monocytogenes in 25g:

- counting of *L. monocytogenes* (number of UFC/g) in 10g if positive: method EN 11290-2 or AFNOR certified method.
LNR AFSSA-LERQAP

detection limit < 10 UFC/g

- Only the detection-positive samples were submitted for enumeration test.

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>Listeria</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail	-									
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at processing plant	-									
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at retail	-									
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant	-									
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail	-									
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant	--									
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail	-									
Cheeses made from goats' milk - hard - made from pasteurised milk - at processing plant	-									
Cheeses made from goats' milk - hard - made from pasteurised milk - at retail	-									
Cheeses made from goats' milk - hard - made from raw or low heat-treated milk - at processing plant	-									
Cheeses made from goats' milk - hard - made from raw or low heat-treated milk - at retail	-									

Table *Listeria monocytogenes* in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for <i>Listeria</i>	Units tested with detection method	<i>Listeria monocytogenes</i> presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	<i>L. monocytogenes</i> > 100 cfu/g
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at processing plant	-									
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at retail	-									
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant	-									
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail	-									
Cheeses made from sheep's milk - hard - made from pasteurised milk - at processing plant	-									
Cheeses made from sheep's milk - hard - made from pasteurised milk - at retail	-									
Cheeses made from sheep's milk - hard - made from raw or low heat-treated milk - at processing plant	-									
Cheeses made from sheep's milk - hard - made from raw or low heat-treated milk - at retail	-									
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at processing plant	-									
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at retail	-									
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at processing plant	-									

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Listeria	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but ≤ 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail	-									
Dairy products (excluding cheeses) - butter - at processing plant	-									

2.3.4 Listeria in animals

Table Listeria in animals

	Source of information	Sampling unit	Units tested	Total units positive for Listeria	L. monocytogenes	Listeria spp., unspecified
Birds - wild - Clinical investigations (necropsy)	SAGIR	Animal	1	1		1
Deer - wild - roe deer - from hunting - Clinical investigations (necropsy)	SAGIR	Animal	3	3	3	
Hares - wild - from hunting - Clinical investigations (necropsy)	SAGIR	Animal	5	5	5	

Footnote:

SAGIR is the network for game surveillance

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 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

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

Unité de Microbiologie alimentaire et prévisionnelle (UMAP)

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 unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified	Verotoxigenic E. coli (VTEC) - VTEC O157:H7 - eae positive vtx1 and vtx2 positive	Verotoxigenic E. coli (VTEC) - VTEC O103:H2 - eae positive vtx1 positive	Verotoxigenic E. coli (VTEC) - VTEC O157:H7 - eae positive vtx2 positive
Cheeses made from cows' milk - unspecified - made from raw or low heat-treated milk - at processing plant - domestic production - Monitoring - official sampling (during maturing step) ¹⁾	CCA	Single	50g	1050	12	0	12	0	0		0
Cheeses made from goats' milk - unspecified - made from raw or low heat-treated milk - at processing plant - domestic production - Monitoring - official sampling (during maturing step) ²⁾	CCA	Single	50g	510	4	1	3	0	0		1
Cheeses made from sheep's milk - unspecified - made from raw or low heat-treated milk - at processing plant - domestic production - Monitoring - official sampling (during maturing step) ³⁾	CCA	Single	50g	347	1	0	1	0	0		0
Meat from bovine animals - minced meat - intended to be eaten raw - chilled - at retail - domestic production - Monitoring - official sampling	CCA	Single	25g	1527	2	1	1	0	1	1	0

Comments:

- ¹⁾ 12 strains non O157: 11 strains eae+, vtx1+; 1 strain eae+, vtx2+
²⁾ 3 strains non O157: 2 strains eae+, vtx2+; 1 strain: eae+, vtx2+
³⁾ 1 strain non O157: eae+, vtx1+

Footnote:

All the samples were raw milk cheese

Analyse method:

O157 STEC:

Method that are validated against ISO 16654:2001(ISO, 2001) in accordance with ISO 16140:2003 (ISO, 2003) and certified by relevant bodies (AFNOR) was used.

The general principle of the validated method comprises the following consecutive steps:

1. Microbial enrichment of the test portion to increase the number of the target bacteria to a detectable level
2. Immunological detection of O157 using the automatized VIDAS ® technology (based on phage ligand enzyme linked fluorescent assay detection).
3. Confirmation step with the isolation of the STEC strains responsible for the positive reactions
4. Characterization of the O157 strains isolated (virulence genes and complete serotype O157:H7).

Non-O157 STEC:

Analyses were adapted from the draft of the technical specification proposed by the Working Group 6 of the Technical Committee 275 of the European Committee for Standardization (CEN TC275/WG6) entitled "Microbiology of food and animal feeding stuffs – Horizontal method for the detection of STEC belonging to O157, O26, O111, 103 and O145".

The general principle of this method comprises the following consecutive steps:

1. Microbial enrichment of the test portion to increase the number of the target bacteria to a detectable level
2. Nucleic acid extraction
3. Detection by real time PCR of both main virulence genes (*eae*, *stx1* and *stx2* genes) and serogroup specific genes (Nielsen and Andersen, 2003; Perelle et al., 2004; Perelle et al., 2005)
4. Confirmation step by isolation of the STEC strains responsible for the positive reactions
5. Characterization of the STEC strains isolated (virulence genes and serotype).

Nielsen EM and Andersen MT, 2003. Detection and characterization of verocytotoxin-producing *Escherichia coli* by automated 5' nuclease PCR assay. *Journal of Clinical Microbiology* 41, pp. 2884-2893.

Perelle S, Dilasser F, Grout J, Fach P, 2004. Detection by 5'-nuclease PCR of Shiga-toxin producing *Escherichia coli* O26, O55, O91, O103, O111, O113, O145 and O157:H7, associated with the world's most frequent clinical cases. *Molecular and Cellular Probes* 18, pp. 185-192.

Perelle S, Dilasser F, Grout J, Fach P, 2005. Detection of *Escherichia coli* serogroup O103 by realtime polymerase chain reaction. *Journal of Applied Microbiology* 98, pp. 1162-1168.

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

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Additional information

For specific information on animal side consult the specific page about tuberculosis on <http://www.afssa.fr/index.htm>

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/tuberculose/default.htm>

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 départements 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

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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:

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.

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

--

Additional information

NRL laboratory: AFSSA Lerpaz, Unité Zoonoses Bactériennes, 94706 Maisons-Alfort Cedex, France
<http://www.afssa.fr/Documents/SANT-Fi-TUB.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 unit	Units tested	Total units positive for Mycobacterium	M. bovis	M. tuberculosis	Mycobacterium spp., unspecified	M. caprae	M. microti	M. pinnipedii
Badgers - wild - from hunting - Surveillance (necropsy) ¹⁾	Local Vet service	Animal	250	32	16		16			
Birds - zoo animal - at zoo - Clinical investigations (necropsy)	zoo vet	Animal	4	4			4			
Cats - pet animals - Clinical investigations (at veterinary clinic (necropsy))	Vet	Animal	7	5	1		2		2	
Cattle (bovine animals) - at slaughterhouse - Control and eradication programmes (meat inspection)	Local vet service	Herd	91	82	68		13	1		
Deer - farmed - at slaughterhouse - Monitoring (necropsy)	Local vet service	Herd	1	1	1					
Deer - wild - red deer - from hunting - Surveillance (necropsy)	Local vet service	Animal	21	6	2		4			
Deer - wild - roe deer - from hunting - Surveillance (necropsy)	Local vet service	Animal	1	1			1			
Dogs - pet animals - Clinical investigations (at veterinary clinic (necropsy))	Vet	Animal	1	1			1			
Ferrets - pet animals - Clinical investigations (at veterinary clinic (necropsy))	Vet	Animal	1	1			1			
Foxes - wild - from hunting - Surveillance (necropsy)	Local vet service	Animal	4	2			2			
Goats - at slaughterhouse - Monitoring (necropsy)	Local vet service	Animal	7	6	1		5			
Hares - wild - from hunting - Surveillance (necropsy)	SAGIR	Animal	1	0						

Table Tuberculosis in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Mycobacterium	M. bovis	M. tuberculosis	Mycobacterium spp., unspecified	M. caprae	M. microti	M. pinnipedii
Kangaroos - zoo animal - Tree-kangaroo - at zoo - Clinical investigations (necropsy)	zoo vet	Animal	1	1			1			
Monkeys - zoo animal - at zoo - Clinical investigations (necropsy)	zoo vet	Animal	1	1			0		1	
Pigs - at slaughterhouse - Monitoring (necropsy)	Local vet service	Animal	61	59	4		55			
Pyrenean chamois - zoo animal - at zoo - Clinical investigations (necropsy)	zoo vet	Animal	1	1			1			
Reptiles - zoo animal - at zoo - Clinical investigations (necropsy) ²⁾	zoo vet	Animal	1	1			1			
Rufous rat-kangaroo - zoo animals - at zoo - Clinical investigations (necropsy)	zoo vet	Animal	1	1			1			
Sea lion - zoo animals - at zoo - Clinical investigations (necropsy)	zoo vet	Animal	20	11			10			1
Sheep - at slaughterhouse - Monitoring (necropsy)	Local vet service	Animal	1	1			1			
Wild boars - from hunting - Survey ³⁾	ONCFS	Animal	400	143	44		99			
Wild boars - wild - from hunting - Surveillance (necropsy)	Local vet service	Animal	1	1	1					

Comments:

¹⁾ In one departement : Côte d'Or.

²⁾ iguana

³⁾ Survey realised in 2 departements: 200 wild boars in Côte d'Or and 200 wild boars in Seine Maritime and

Footnote:

Local Veterinary services are under the authority of DGAL (Central competent authority)
There is one local vet service per "département" (France = 100 départements).

Source: National Reference Laboratory for Tuberculosis. (AFSSA)

Source ONCFS: National office for Hunting and Wild fauna

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Routine tuberculin testing		Number of tuberculin tests carried out before the introduction into the herds (Annex A(I)(2)(c) third indent (1) of Directive 64/432/EEC)	Number of animals with suspicious lesions of tuberculosis examined and submitted to histopathological and bacteriological	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	237352	14262874	236317	99.56	97	.04	others, please specify cf.	768300	287789	255	65
Total : ¹⁾	237352	14262874	236317	99.56	97	.04	N.A.	768300	287789	255	65

Comments:

¹⁾ N.A.

Footnote:

The interval between two tuberculinations test varies according the departement and so, the situation: annually, every 2 years, every 3 years, every 3 years for bovine > 24 month, every 4 years or no test but only in certain town if a risk zone appears. See details in text form.

Each bovine slaughtered has a post mortem examination.

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 practitioners 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, formerly 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 2009, more than 230,000 herds, housing nearly 14.2 million bovines were included in the surveillance program of bovine brucellosis. In 2009, 136,000 herds were submitted to serological tests and 68,000 herds were submitted to tests on bulk milk for brucellosis; nearly 35,000 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

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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.

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

France - 2009 Report on trends and sources of zoonoses

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 detected 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.

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 breeding 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 measures. 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 (uncontrolled 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 unit	Units tested	Total units positive for Brucella	B. abortus	B. melitensis	B. suis	Brucella spp., unspecified	B. pinnipedialis	B. suis - biovar 2
Hares - wild - from hunting - Surveillance - official controls	SAGIR	Animal	9	9			1			8
Marine mammals - zoo animals - at zoo - Clinical investigations ¹⁾	RNE	Animal	1	1					1	
Pigs - fattening pigs - not raised under controlled housing conditions in integrated production system - at farm - animal sample - Surveillance - official controls - suspect sampling ²⁾	Local vet service	Animal	1	1						1
Sheep - at farm - animal sample - Control and eradication programmes - official sampling - suspect sampling ³⁾		Animal	1	1						1
Wild boars - wild - from hunting - Surveillance - official controls	Local Vet lab	Animal	9	9						9

Comments:

¹⁾ Bottlenose dolphin

²⁾ Investigations in free range pig herd with evocative signs of brucellosis (abortions, orchitis) and confirmed by serology.

³⁾ Not a case according European regulation. Bacteriology performed on seropositive animals. Ewes in close contact with boars.

Footnote:

Sources:

Analysis done by the NRL (AFSSA)

SAGIR: SAGIR network is a national network of sanitary surveillance of wild fauna. His aim is to perform a surveillance of the mortality of wild animals throughout national territory. He's based on a net of hunters and official agents of national office for wild fauna and hunting (ONCFS).

Wild animals found dead or dying are transported in local vet laboratories for analyse. There is a national database for all the results held by AFSSA.

RNE: National network of strandings (beached) mammals

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

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
Ain	963	27093	950	98.65	0	0	507	11025	0	574	8	7	0	13
Aisne	1300	28912	1295	99.62	0	0	526	7684	0	9	9	0	0	5
Allier	2397		2379	99.25	0	0	387	22364	0	3	0	0	0	6
Alpes-Maritimes	374	56710	369	98.66	0	0	374	56710	0	7424	0	5		5
Alpes-de-Haute-Provence	922	145844	898	97.4	0	0	693	145846	0	13814	25	26	0	24
Ardennes	716	36242	716	100	0	0	104	3775	0	0	0	0	0	0
Ardèche	1817	104303	1809	99.56	0	0	782	30483	0	446	12	2	0	8
Ariège	1595		1567	98.24	0	0	1211	38517	0	2206	10	0	0	28
Aube	331	19773	328	99.09	0	0	102		0	20	0	0	0	3
Aude	655	47076	653	99.69	0	0	214	9752	0	640	2	0	0	2
Aveyron	3907	774514	3801	97.29	0	0	3860	124774	0	4200	526		0	106
Bas-Rhin	952	26343	940	98.74	0	0	409	5457	0	12	0	0	0	12
Bouches-du-Rhône	438		426	97.26	0	0	322	144912	0	9803	2	5	0	12

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

Calvados	3737		3737	100	0	0	737	25578	0	0	0	0	0	0
Cantal	1336		1334	99.85	0	0	299	5127	0	112	0	0	0	2
Charente	2052		2052	100	0	0	38	825	0	7	0	0	0	0
Charente-Maritime	1260		1260	100	0	0	58	3178	0	680	8	0	0	0
Cher	1167	118	1167	100	0	0	494	31564	0	0	0	0	0	0
Corrèze	1794		1794	100	0	0	1127		0	0	0	4	0	0
Corse-du-Sud					0									0
Creuse	1875		1875	100	0	0	385	13597	0	0	0	0	0	0
Côte-d'Or	907		901	99.34	0	0	181		0	2	2	1	0	3
Côtes-d'Armor	3812		3812	100	0	0	1187	4258	0				0	0
Deux-Sèvres	2515	337199	8152	324.14	0	0	714	90848	0	442	103	201	0	0
Dordogne	3066	103940	3057	99.71	0	0	1183	34497	0	205	9	13	0	9
Doubs	900		900	100	0	0	127		0	0	0	0	0	0
Drôme					0		1083	68997	0		69	18	0	1
Essonne	69		69	100	0	0	21		0	0	0	0	0	0
Eure	1963		1960	99.85	0	0	760	9671	0	55	0	0	0	3

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

Eure-et-Loir	734	12887	734	100	0	0	58	1611	0	0	0	0	0	0
Finistère	2763		2763	100	0	0	431	4053	0	0	0	0	0	0
Gard					0		495	26532	0	28	1	9	0	19
Gers	1163		1161	99.83	0	0	170	5453	0	1234	6	0	0	4
Gironde	2701	30500	2701	100	0	0	304	4369	0	9	0	0	0	0
Haut-Rhin	544		544	100	0	0	208	1656	0	0	0	0	0	0
Haute-Corse					0									0
Haute-Garonne	2092	65876	2092	100	0	0	1177	32153	0	0	0	0	0	0
Haute-Loire	1851	140374	1848	99.84	0	0	1125	27662	0	17	0	0	0	3
Haute-Marne	1011		979	96.83	0	0	115	5095	0	53	0	0	0	32
Haute-Savoie	320		316	98.75	0	0	320	9519	0	0	0	0	0	4
Haute-Saône	1522	35073	1522	100	0	0	141		0	0	0	0	0	0
Haute-Vienne	3137		3134	99.9	0	0	361	16480	0	0	0	0	0	3
Hautes-Alpes	900	197000	863	95.89	0	0	880	184200	0	10361	35	51	0	37
Hautes-Pyrénées	1758	90471	1757	99.94	0	0	1778	22068	0	21	0	0	0	1
Hauts-de-Seine	7	96	7	100	0	0	7	96	0	0	0	0	0	0

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

Hérault	600	38774	600	100	0	0	299	12513	0	0	0	0	0	0
Ille-et-Vilaine	4531	38000	4531	100	0	0			0				0	
Indre	1796	115675	1782	99.22	0	0	537	49334	0	0	0	0	0	1
Indre-et-Loire	839		839	100	0	0	322	31794	0	169	19	0	0	0
Isère	2226	56839	2225	99.96	0	0	1809		0	6	1	0	0	1
Jura	706		706	100	0	0	72	2187	0	0	0	0	0	0
Landes	764		764	100	0	0	458		0	8	0	0	0	0
Loir-et-Cher	750		750	100	0	0	264	10750	0	44	0	1	0	0
Loire	2151	70634	2140	99.49	0	0	1116	28058	0	208	4	19	0	11
Loiret	502	18082	502	100	0	0	255	6689	0	0	0	0	0	0
Lot	1865	385000	1865	100	0	0	657	47412	0	0	0	0	0	0
Lot-et-Garonne	1442		1442	100	0	0	452		0	0	0	0	0	0
Lozère	875	159791	822	93.94	0	0	478	29433	0	3609	60	58	0	53
Maine-et-Loire	2142	64955	2140	99.91	0	0	445	25317	0	41	0	1	0	2
Manche	5853	49365	5853	100	0	0	1788		0	630	22	0	0	0
Marne	373	12500	371	99.46	0	0	121		0	4	0	0	0	2

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

Mayenne	2699	27938	2696	99.89	0	0	608	4544	0	55	5	0	0	3
Meurthe-et-Moselle	941		941	100	0	0	318	0	0	0	0	0	0	0
Meuse	862	35283	862	100	0	0	197	3747	0	0	0	0	0	0
Morbihan	1449	28552	1449	100	0	0	524	0	0	28	0	3	0	0
Moselle	717	79522	626	87.31	0	0	200	6067	0	733	6	0	0	91
Nièvre	269		269	100	0	0	372	4662	0	43	0	0	0	0
Nord	1777		1766	99.38	0	0	1270		0	10	5		0	10
Oise	1126	11236	1126	100	0	0	190	3238	0	0	0	0	0	0
Orne	2400	33500	2400	100	0	0	337	3061	0	0	0	0	0	0
Paris	4	74	4	100	0	0	2	72	0	0	0	0	0	0
Pas-de-Calais	1532	32130	1532	100	0	0	213	222	0	0	0	0	0	0
Puy-de-Dôme	1936		1936	100	0	0	291		0	0	0	0	0	0
Pyrénées-Atlantiques	4864	612797	4846	99.63	0	0	4656	154874	0	0	0	460	0	18
Pyrénées-Orientales	416	39025	416	100	0	0	370	34040	0	0	0	0	0	0
Rhône	1252	38649	1252	100	0	0	670	22959	0	5		0	0	0
Sarthe	2360		2360	100	0	0	405	3040	0	1	0	0	0	0

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

Savoie	1156	39600	1156	100	0	0	730	20448	0	0	0	7	0	0
Saône-et-Loire	2544	94000	2544	100	0	0	1405	24116	0	220	2	2	0	0
Seine-Maritime	3894		3885	99.77	0	0	1266	9447	0	50	2	0	0	9
Seine-Saint-Denis	10	119	10	100	0	0	2	30	0	0	0	0	0	0
Seine-et-Marne	370		370	100	0	0		0	0	0	0	0	0	0
Somme	1107		1106	99.91	0	0	234		0	3	1	0		1
Tarn	2229	245190	2204	98.88	0	0	1131	41937	0	0	0	11	0	25
Tarn-et-Garonne	679		677	99.71	0	0	74	3700	0	0	0	0	0	2
Territoire de Belfort	237	2630	237	100	0	0	19	318	0	0	0	0	0	0
Val-d'Oise	42		42	100	0	0	26		0	0	0	0	0	0
Val-de-Marne	15	190	15	100	0	0	9	167	0	0	0	0	0	0
Var	379	60689	377	99.47	0	0	320	60689	0	3	0	0	0	2
Vaucluse	370	38897	345	93.24	0	0	348	31920	0	11574	41	32	0	25
Vendée	1927	101904	1927	100	0	0	168		0	0	0	0	0	0
Vienne	2595	320000	2561	98.69	0	0	348	30325	0	44	0	4	0	34
Vosges	784	60161	784	100	0	0	105	2938	0	0	0	4	0	0

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

Yonne	1052		1052	100	0	0	393		0	10	0	10	0	1
Yvelines	241		241	100	0	0	121		0		0	0	0	0
Total : ¹⁾	134973	5192045	139968	103.7	0	0	51850	1940434	0	69875	995	954	0	636

Comments:

¹⁾ N.A.

Footnote:

Blank means: No data available

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance						Investigations of suspect cases								
	Herds	Animals	Number of herds	%	Number of herds	%	Serological tests			Examination of bulk milk			Information about			Epidemiological investigation					
							Number of bovine herds tested	Number of animals tested	Number of infected herds	Number of bovine herds tested	Number of animals or pools tested	Number of infected herds	Number of notified abortions whatever cause	Number of isolations of Brucella infection	Number of abortions due to Brucella abortus	Number of animals tested with serological blood tests	Number of suspended herds	Number of positive animals		Number of animals examined microbiologically	Number of animals positive microbiologically
																	Sero logically	BST			
France	237352	1426287 4	236585	99.68	0	0	136638	1726533	0	68012	0	0	61216	0	0	13592	2886	472	0	134	0
Total :	¹⁾ 237352	1426287 4	236585	99.68	0	0	136638	1726533	0	68012	0	0	61216	0	0	13592	2886	472	0	134	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. Yersiniosis 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 available 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.

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.

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-Ierpaz). 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>

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 AFSSA (food safety agency, reference lab)

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 borned parasites (NRL Parasites). Analysts also participate to two -days of theoretical and pratical formation also organised by the NRL Parasites.

Routine laboratories receive an agreement for *Trichinella* diagnosis by the Ministry of Agriculture 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, theoretical 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.

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, receive by the slaughterhouse operator, the information about outdoor farm is mentioned 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 theoretical 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.

France - 2009 Report on trends and sources of zoonoses

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 developed

- Instruction for wild boar meat and outdoor 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 and 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 available 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 were 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, theoretical 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 unit	Units tested	Total units positive for <i>Trichinella</i>	<i>T. spiralis</i>	<i>Trichinella</i> spp., unspecified	<i>T. britovi</i>
Pigs - breeding animals - unspecified - sows and boars	NRL	Animal	279522	0			
Pigs - fattening pigs - not raised under controlled housing conditions in integrated production system ¹⁾	NRL	Animal	296147	0			
Pigs - fattening pigs - raised under controlled housing conditions in integrated production system ²⁾	NRL	Animal	26496	0			
Solipeds, domestic - horses	NRL	Animal	12588	0			
Wild boars - farmed			11321	0			
Wild boars - wild ³⁾	NRL	Animal	21186	0			
Foxes - wild - from hunting - Surveillance ⁴⁾	NRL	Animal	27	3			3
Foxes - wild - from hunting - Survey - national survey ⁵⁾	ONCFS	Animal	330	0			
Wild boars - wild - from hunting - Survey - national survey ⁶⁾	ONCFS	Animal	2410	0			

Comments:

¹⁾ free-range farming

²⁾ off-land farming

³⁾ Surveillance program. This number is underestimate. Animals have been tested during hunting season from september 2009 to february 2010.

⁴⁾ The analysis were performed in 2009, but the animals were hunted in 2007 (2) and 2008 (1)

⁵⁾ Animals have been tested during hunting season from september 2009 to december 2009. The results come from a specific study in 5 departements that is still on going (1500 samples planned in 2010)

⁶⁾ Animals have been tested during hunting season from september 2009 to february 2010. The results come from a specific study in 5 departements.

Footnote:

NRL for animal trichinelosis is AFSSA-Ierpaz "Laboratoire National de Référence pour les parasites transmis par les aliments".

No positive pig was detected in France in 2009.

The number of units tested is the one of NRL. If there's a positive or uncertain case, the official labs sent it to NRL, but the number of units tested in each laboratory is not reported here. Same for horses

ONCFS is Office for Hunting and wild fauna.

<http://www.oncfs.gouv.fr/>

Results are also collected by national association of hunters

The hunting season is astride on 2009 and 2010, so for the wild boars in particular, some of them have been hunted in 2010.

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 the parasite was reported in the fox since 1970 in several French départements 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 départements. 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.

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

Recent results suggest that the parasite spreads on the French territory. In France as in Europe, 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 a real extension of the parasite.

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.

Recent actions taken to control the zoonoses

The infection rate in foxes is currently assessed in 39 French départements and specific studies are carried out on urban foxes. Moreover, domestic dogs and cats were checked for parasite in 2004 in département of Doubs and on dog only in 2008 in département of Meuse.

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.

Suggestions to the Community for the actions to be taken

-

Additional information

The control of infection by *granulosus* at the slaughterhouse level is in preparation to actualize the Data, in south of France and in Corsica.

Interesting information about the study on the foxes can be obtained on the website of "Entente Rage zoonose" at

<http://www.ententeragezoonoses.com>

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 available 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 unit	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis	Echinococcus spp., unspecified
Alpine chamois - Surveillance	Afssa	Animal	1	1	1		
Cattle (bovine animals) - at slaughterhouse - Surveillance	Afssa	Animal	6	3	3		
Foxes - wild - from hunting (Foxes killed for a surveillance only in a selection of french departments)	Afssa/ERZ	Animal	925	104		104	
Rabbits - Surveillance	Afssa	Animal	1	0			
Sheep - at slaughterhouse - Surveillance	Afssa	Animal	21	10	10		

Footnote:

ERZ Entente Rage zoonose

The result on foxes can't be interpreted as national prevalence. The survey has been done only a selection of french départements mainly on the great East of France. All the details (map) are available at <http://www.ententeragezoonoses.com/blog/>

Laboratory for echinococcus:

Nancy Rage

Laboratoire d'études et de recherches sur la rage et la pathologie des animaux sauvages

Technopôle agricole et vétérinaire

BP 40009

54220 MALZÉVILLE

Tél. : 03 83 29 89 50

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 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).

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

<http://www.afssa.fr/Documents/MIC-Ra-Toxoplasnose.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 toxoplasnose:

<http://www.chu-reims.fr/professionnels/cnr-toxoplasnose-1/>

http://www.invs.sante.fr/beh/2008/14_15/index.htm

<http://www.invs.sante.fr/publications/2007/toxoplasnose/toxoplasnose.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-toxoplasrose-1/>

2.10.3 Toxoplasma in animals

Table Toxoplasma in animals

	Source of information	Sampling unit	Units tested	Total units positive for Toxoplasma	T. gondii
Cattle (bovine animals) - Monitoring - official sampling (over 8 months - at market - imported meat)	CCA	Animal	337	110	110
Cattle (bovine animals) - at slaughterhouse - animal sample - Monitoring - official sampling (over 8 months)	CCA	Animal	1772	275	275
Cattle (bovine animals) - calves (under 1 year) - Monitoring - official sampling (under 8 months - at market - imported meat)	CCA	Animal	225	15	15
Cattle (bovine animals) - calves (under 1 year) - at slaughterhouse - animal sample - Monitoring - official sampling (calves under 8 months)	CCA	Animal	577	29	29

Footnote:

Two kind of samples were tested in the same monitoring plan.

For domestic production: carcasses (hearts) at slaughterhouses, direct detection on hearts detected positive by serology (serological method from muscular exsudate, xenodiagnostic after digestion of hearts, mouse inoculation), 200g. 2349 samples allocated between calves under 8 months and other animals over 8 months.

For imported meat (EU trade): carcasses (thin skirt) sampled in Rungis market (national market) serological detection from muscular exsudate, 100g. 562 samples allocated between calves under 8 months and other animals over 8 months.

Two living parasites detected in 2 samples: strain genotype 2.

The two laboratories:

AFSSA LERPAZ / UMR BIPAR
23 avenue du Général de Gaulle
94700 Maisons-Alfort

ou
- CNR « Toxoplasmose »
Laboratoire Parasitologie-Mycologie
Hôpital Maison Blanche
45 rue Cognacq-Jay
51092 Reims Cedex

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 unit	Units tested	Total units positive for Lyssavirus (rabies)	Lyssavirus, unspecified	Classical rabies virus (genotype 1)	European Bat Lyssavirus - unspecified	European Bat Lyssavirus 1 (EBL 1)
Badgers - wild - from hunting - Surveillance	CCA	Animal	1	0				
Bats - wild - Surveillance	CCA	Animal	323	11		1		11
Cats - pet animals - Surveillance (at vet clinic)	CCA	Animal	658	0				
Cattle (bovine animals) - unspecified - at farm - animal sample - organ/tissue - Surveillance	CCA	Animal	11	0				
Deer - wild - red deer - from hunting - Surveillance	CCA	Animal	1	0				
Dogs - stray dogs - Surveillance - official controls - suspect sampling (at vet clinic)	CCA	Animal	772	0				
Foxes - wild - from hunting - Surveillance	CCA	Animal	66	0				
Goats - at farm - animal sample - organ/tissue - Surveillance	CCA	Animal	1	0				
Marten - wild - from hunting - Surveillance	CCA	Animal	3	0				
Solipeds, domestic - horses - at farm - animal sample - organ/tissue - Surveillance	CCA	Animal	9	0				

Footnote:

Samples: Brain,
National Reference Laboratory: AFSSA Nancy
Passive surveillance by local vet services and hunters

* Animals (or their head) are transferred from competent veterinary services to the rabies National Reference Centre (NRC) or to the Rabies National Reference Laboratory (NRL) for analysis.

2.12 Q-FEVER

2.12.1 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 authority / general directorate for food –CCA-, researchers, breeders, national association, vet, labs, pharmaceutical 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 disinfection 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 Rickettsia, 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 authority, 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 persistent 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

2.12.2 Coxiella (Q-fever) in animals

Table Coxiella burnetii (Q fever) in animals

		Source of information	Sampling unit	Units tested	Total units positive for Coxiella (Q-fever)	C. burnetii
Cattle (bovine animals)	1)					
Goats	2)					
Sheep	3)					

Comments:

- 1) -
2) -
3) -

2.13 HEPATITIS

2.13.1 General evaluation of the national situation

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/antibioreistance>

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 are 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.

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.

For AMR topic:

Interesting information about AMR in animals

<http://www.afssa.fr/Documents/SANT-Ra-FARM2006.pdf>

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

France - 2009 Report on trends and sources of zoonoses

<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.

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>

Interesting information about AMR in animals

<http://www.afssa.fr/Documents/SANT-Ra-FARM2006.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)	
	Number of isolates available in the laboratory	
Antimicrobials:	N	n
Amphenicols - Chloramphenicol	155	24
Amphenicols - Florfenicol	155	3
Fluoroquinolones - Ciprofloxacin	155	1
Quinolones - Nalidixic acid	155	7
Trimethoprim	155	66
Sulfonamides - Sulfonamide	155	81
Aminoglycosides - Streptomycin	155	81
Aminoglycosides - Gentamicin	155	0
Penicillins - Ampicillin	155	38
Tetracyclines - Tetracycline	155	113
Fully sensitive	155	27
Resistant to 1 antimicrobial	155	27
Resistant to 2 antimicrobials	155	24
Resistant to 3 antimicrobials	155	17
Resistant to 4 antimicrobials	155	26
Resistant to >4 antimicrobials	155	34
Cephalosporins - Cefotaxim	155	2
Cephalosporins - Ceftazidim	155	0

Table Antimicrobial susceptibility testing of E. coli in Pigs

Footnote:
data on isolates collected in 2008

Table Antimicrobial susceptibility testing of *E. coli* in *Gallus gallus* (fowl)

Escherichia coli, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	E.coli, non-pathogenic, unspecified	
	yes	
	189	
Antimicrobials:	N	n
Amphenicols - Chloramphenicol	189	13
Amphenicols - Florfenicol	189	0
Fluoroquinolones - Ciprofloxacin	189	13
Quinolones - Nalidixic acid	189	63
Trimethoprim	189	77
Sulfonamides - Sulfonamide	189	90
Aminoglycosides - Streptomycin	189	72
Aminoglycosides - Gentamicin	189	1
Penicillins - Ampicillin	189	93
Tetracyclines - Tetracycline	189	144
Fully sensitive	189	23
Resistant to 1 antimicrobial	189	33
Resistant to 2 antimicrobials	189	27
Resistant to 3 antimicrobials	189	25
Resistant to 4 antimicrobials	189	31
Resistant to >4 antimicrobials	189	50
Cephalosporins - Cefotaxim	189	3
Cephalosporins - Ceftazidim	189	0

Table Antimicrobial susceptibility testing of E. coli in Gallus gallus (fowl)

Footnote:
data on isolates collected in 2008

Table Antimicrobial susceptibility testing of E. coli in Meat from broilers (Gallus gallus)

Escherichia coli, non-pathogenic	E.coli, non-pathogenic, unspecified	
	Isolates out of a monitoring program (yes/no)	
	yes	
	151	
Number of isolates available in the laboratory	N	n
Antimicrobials:		
Amphenicols - Chloramphenicol	151	11
Amphenicols - Florfenicol	151	0
Fluoroquinolones - Ciprofloxacin	151	8
Quinolones - Nalidixic acid	151	64
Trimethoprim	151	59
Sulfonamides - Sulfonamide	151	81
Aminoglycosides - Streptomycin	151	62
Aminoglycosides - Gentamicin	151	6
Penicillins - Ampicillin	151	64
Tetracyclines - Tetracycline	151	125
Fully sensitive	151	15
Resistant to 1 antimicrobial	151	27
Resistant to 2 antimicrobials	151	21
Resistant to 3 antimicrobials	151	17
Resistant to 4 antimicrobials	151	25
Resistant to >4 antimicrobials	151	46
Cephalosporins - Cefotaxim	151	5
Cephalosporins - Ceftazidim	151	4

Table Antimicrobial susceptibility testing of E. coli in Meat from pig

Escherichia coli, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	E.coli, non-pathogenic, unspecified	
	yes	
	100	
Antimicrobials:	N	n
Amphenicols - Chloramphenicol	100	10
Amphenicols - Florfenicol	100	0
Fluoroquinolones - Ciprofloxacin	100	3
Quinolones - Nalidixic acid	100	11
Trimethoprim	100	35
Sulfonamides - Sulfonamide	100	37
Aminoglycosides - Streptomycin	100	42
Aminoglycosides - Gentamicin	100	2
Penicillins - Ampicillin	100	25
Tetracyclines - Tetracycline	100	56
Fully sensitive	100	37
Resistant to 1 antimicrobial	100	10
Resistant to 2 antimicrobials	100	5
Resistant to 3 antimicrobials	100	20
Resistant to 4 antimicrobials	100	7
Resistant to >4 antimicrobials	100	21
Cephalosporins - Cefotaxim	100	4
Cephalosporins - Ceftazidim	100	2

Table Antimicrobial susceptibility testing of E. coli in Meat from other poultry species

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	
	N	n
Antimicrobials:		
Amphenicols - Chloramphenicol	155	33
Amphenicols - Florfenicol	155	1
Fluoroquinolones - Ciprofloxacin	155	15
Quinolones - Nalidixic acid	155	45
Trimethoprim	155	76
Sulfonamides - Sulfonamide	155	83
Aminoglycosides - Streptomycin	155	63
Aminoglycosides - Gentamicin	155	8
Penicillins - Ampicillin	155	94
Tetracyclines - Tetracycline	155	140
Fully sensitive	155	11
Resistant to 1 antimicrobial	155	20
Resistant to 2 antimicrobials	155	15
Resistant to 3 antimicrobials	155	31
Resistant to 4 antimicrobials	155	30
Resistant to >4 antimicrobials	155	48
Cephalosporins - Cefotaxim	155	3
Cephalosporins - Ceftazidim	155	3

Table Antimicrobial susceptibility testing of E. coli in Meat from other poultry species

Footnote:
meat from turkey

Table Antimicrobial susceptibility testing of E. coli in Pigs - fattening pigs - unspecified - at slaughterhouse - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified	Pigs - fattening pigs - unspecified - at slaughterhouse - Monitoring - official sampling - objective sampling																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	155																									
	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest	
Amphenicols - Chloramphenicol	16	155	24									2	46	77	6	4	11	5	3	1					2	256
Amphenicols - Florfenicol	16	155	3									4	63	74	11	2	1								2	32
Tetracyclines - Tetracycline	8	155	113								19	22	1	0	0	11	61	40	1						1	128
Fluoroquinolones - Ciprofloxacin	0.03	155	1	8	96	42	2	1	4	1	0	0	0	1											0.008	4
Quinolones - Nalidixic acid	16	155	7								17	119	11	1	0	1	3	2	1						1	128
Trimethoprim		155	66					2	36	47	4	0	0	0	0	66									0.12	16
Sulfonamides - Sulfonamide	256	155	81											11	22	19	16	6	0	0	2	79			8	1024
Aminoglycosides - Streptomycin	16	155	81									0	14	48	12	21	14	19	17	10					2	256
Aminoglycosides - Gentamicin	2	155	0					0	2	87	58	8	0	0	0	0									0.12	16
Penicillins - Ampicillin	8	155	38								10	70	32	5	0	0	2	2	34						1	128
Cephalosporins - Cefotaxim	0.25	155	2		3	61	79	9	1	0	0	0	2												0.015	2
Cephalosporins - Ceftazidim	8	155	0				29	87	37	0	1	1	0	0	0										0.06	8

Footnote:

data from 2008 isolates

Table Antimicrobial susceptibility testing of E. coli in Meat from broilers (Gallus gallus) - fresh - at cutting plant - domestic production - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from broilers (Gallus gallus) - fresh - at cutting plant - domestic production - Monitoring - official sampling - objective sampling																									
	yes																									
	151																									
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest	
Amphenicols - Chloramphenicol	16	151	11									2	63	69	6	1	2	1	3	4					2	256
Amphenicols - Florfenicol	16	151	0									12	71	64	4	0	0								2	32
Tetracyclines - Tetracycline	8	151	125								14	11	1	0	6	20	54	42	3						1	128
Fluoroquinolones - Ciprofloxacin	0.03	151	8	6	45	31	4	11	25	16	5	2	0	6											0.008	4
Quinolones - Nalidixic acid	16	151	64								13	59	12	1	2	5	12	22	25						1	128
Trimethoprim	2	151	59					4	32	46	8	1	1	0	0	59									0.12	16
Sulfonamides - Sulfonamide	256	151	81											4	23	28	13	2	0	0	0	81			8	1024
Aminoglycosides - Streptomycin	16	151	62									0	29	51	9	9	7	11	17	18					2	256
Aminoglycosides - Gentamicin	2	151	6					0	5	73	58	9	0	4	0	2									0.12	16
Penicillins - Ampicillin	8	151	64								9	45	30	3	0	0	1	1	62						1	128
Cephalosporins - Cefotaxim	0.25	151	5		7	36	86	15	1	1	0	0	5												0.015	2
Cephalosporins - Ceftazidim	8	151	4				20	76	39	9	2	0	0	1	4										0.06	8

Footnote:

data from 2008 isolates

Table Antimicrobial susceptibility testing of E. coli in Meat from turkey - fresh - at cutting plant - domestic production - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Meat from turkey - fresh - at cutting plant - domestic production - Monitoring - official sampling - objective sampling																									
	yes																									
	155																									
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest	
Amphenicols - Chloramphenicol	16	155	33									1	46	70	5	7	3	11	8	4					2	256
Amphenicols - Florfenicol	16	155	1									5	72	64	13	0	1								2	32
Tetracyclines - Tetracycline	8	155	140								9	6	0	0	0	16	71	51	2						1	128
Fluoroquinolones - Ciprofloxacin	0.03	155	15	3	78	23	6	3	18	8	1	1	0	14											0.008	4
Quinolones - Nalidixic acid	16	155	45								12	85	10	1	2	0	6	13	26						1	128
Trimethoprim	2	155	76					2	25	42	8	0	2	0	0	76									0.12	16
Sulfonamides - Sulfonamide	256	155	83											7	16	30	18	0	1	0	1	82			8	1024
Aminoglycosides - Streptomycin	16	155	63									0	23	49	20	7	11	13	17	15					2	256
Aminoglycosides - Gentamicin	2	155	8					0	1	76	55	12	3	2	3	3									0.12	16
Penicillins - Ampicillin		155	94								2	28	29	2	0	0	0	6	88						1	128
Cephalosporins - Cefotaxim	0.25	155	3		1	51	74	24	2	0	0	0	3												0.015	2
Cephalosporins - Ceftazidim	8	155	3				15	73	58	6	0	0	0	0	3										0.06	8

Footnote:

data from 2008 isolates

Table Antimicrobial susceptibility testing of E. coli in Meat from pig - fresh - at cutting plant - domestic production - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified	Meat from pig - fresh - at cutting plant - domestic production - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	yes																										
	100																										
	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Amphenicols - Chloramphenicol	16	100	10									2	32	52	4	3	2	3	2	0					2	256	
Amphenicols - Florfenicol	16	100	0									6	41	49	4	0	0								2	32	
Tetracyclines - Tetracycline	8	100	56								23	19	2	0	2	12	23	19	0						1	128	
Fluoroquinolones - Ciprofloxacin	0.03	100	3	7	53	28	1	0	2	3	3	0	0	3											0.008	4	
Quinolones - Nalidixic acid	16	100	11								9	72	8	0	0	0	1	0	10						1	128	
Trimethoprim	2	100	35					4	21	36	3	1	0	0	0	35									0.12	16	
Sulfonamides - Sulfonamide	256	100	37											9	17	23	13	1	0	0	0	37			8	1024	
Aminoglycosides - Streptomycin	16	100	42									1	10	42	5	7	11	9	10	5					2	256	
Aminoglycosides - Gentamicin		100	2					0	2	53	32	9	2	1	0	1									0.12	16	
Penicillins - Ampicillin	8	100	25								11	32	29	3	0	0	0	1	24						1	128	
Cephalosporins - Cefotaxim	0.25	100	4		6	38	39	12	0	0	0	1	4												0.015	2	
Cephalosporins - Ceftazidim	8	100	2				13	55	21	6	1	0	1	1	2										0.06	8	

Footnote:

data from 2008 isolates

Table Antimicrobial susceptibility testing of E. coli in Gallus gallus (fowl) - broilers - unspecified - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E.coli, non-pathogenic, unspecified Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	Gallus gallus (fowl) - broilers - unspecified - Monitoring - official sampling - objective sampling																									
	yes																									
	189																									
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest	
Amphenicols - Chloramphenicol	16	189	13									2	64	97	13	2	3	2	6	0					2	256
Amphenicols - Florfenicol	16	189	0									6	90	83	10	0	0								2	32
Tetracyclines - Tetracycline	8	189	144								17	27	1	0	3	13	80	48	0						1	128
Fluoroquinolones - Ciprofloxacin	0.03	189	13	6	75	41	3	13	22	12	4	1	0	12											0.008	4
Quinolones - Nalidixic acid	16	189	63								12	105	5	0	4	3	19	15	26						1	128
Trimethoprim	2	189	77					5	38	59	9	1	0	0	2	75									0.12	16
Sulfonamides - Sulfonamide	256	189	90											10	26	37	21	5	0	0	0	90			8	1024
Aminoglycosides - Streptomycin	16	189	72									0	15	73	29	7	12	17	18	18					2	256
Aminoglycosides - Gentamicin	2	189	1					0	0	92	90	6	0	0	1	0									0.12	16
Penicillins - Ampicillin		189	93								9	41	42	4	0	0	0	8	85						1	128
Cephalosporins - Cefotaxim	0.25	189	3		8	59	88	28	1	0	1	1	3												0.015	2
Cephalosporins - Ceftazidim	8	189	0				37	100	44	4	2	0	1	1	0										0.06	8

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	NCCLS/CLSI

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol	EFSA	16	
	Florfenicol	EURL	16	
Tetracyclines	Tetracycline	EFSA	8	
Fluoroquinolones	Ciprofloxacin	EUCAST CASFM	1	
Quinolones	Nalidixic acid	EFSA	16	
Trimethoprim	Trimethoprim	EUCAST CASFM	4	
Sulfonamides	Sulfonamide	EFSA	256	
Aminoglycosides	Streptomycin	EFSA	16	
	Gentamicin	EUCAST CASFM	4	
Cephalosporins	Cefotaxim	EUCAST CASFM	2	
	Ceftazidim	EUCAST CASFM	8	
Penicillins	Ampicillin	EFSA	8	

Footnote:

CASFM: Comité de l'Antibiogramme de la Société Française de Microbiologie

EFSA: European Food Safety Authority

EURL: European Union Reference Laboratory - Antimicrobial Resistance

EUCAST: European Committee on Antimicrobial Susceptibility Testing

Table Cut-off values used for antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Food

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol	EFSA	16	
	Florfenicol	EURL	16	
Tetracyclines	Tetracycline	EFSA	8	
Fluoroquinolones	Ciprofloxacin	EUCAST CASFM	1	
Quinolones	Nalidixic acid	EFSA	16	
Trimethoprim	Trimethoprim	EUCAST CASFM	4	
Sulfonamides	Sulfonamide	EFSA	256	
Aminoglycosides	Streptomycin	EFSA	16	
	Gentamicin	EUCAST CASFM	4	
Cephalosporins	Cefotaxim	EUCAST CASFM	2	
	Ceftazidim	EUCAST CASFM	8	
Penicillins	Ampicillin	EFSA	8	

Footnote:

CASFM: Comité de l'Antibiogramme de la Société Française de Microbiologie

EFSA: European Food Safety Authority

EURL: European Union Reference Laboratory - Antimicrobial Resistance

EUCAST: European Committee on Antimicrobial Susceptibility Testing

Table Cut-off values used for antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Feed

Test Method Used

Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	
Tetracyclines	Tetracycline		8	
Fluoroquinolones	Ciprofloxacin		0.03	
Quinolones	Nalidixic acid		16	
Trimethoprim	Trimethoprim		2	
Sulfonamides	Sulfonamides		256	
Aminoglycosides	Streptomycin		16	
	Gentamicin		2	
Cephalosporins	Cefotaxim		0.25	
Penicillins	Ampicillin		8	

3.2 ENTEROCOCCUS, NON-PATHOGENIC

3.2.1 General evaluation of the national situation

3.2.2 Antimicrobial resistance in Enterococcus, non-pathogenic isolates

A. Antimicrobial resistance of E. faecium 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.

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.

Type of specimen taken

- For poultry production, 2 caecae 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 caecae 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

-

Laboratory methodology used for identification of the microbial isolates

Enterococcus strains have been directly isolated on Slanetz and Bartley agar plates for pig samples and on BEA agar plates for poultry samples. Strains identification was performed by PCR for distinguishing

Enterococcus faecalis and *Enterococcus faecium*. No strain of *Enterococcus faecalis* was isolated from pig faeces, only *Enterococcus faecium* was isolated but with a low prevalence. Instead the two types of strains were isolated from poultry.

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.

Two types of Sensititre plate were used:

- the first plate to test *Enterococcus faecium* from pigs and *Enterococcus faecalis* from broilers including 13 antibiotics: Avilamycin and Clindamycin and the 11 common antibiotics between the two microplates: Ampicillin, Chloramphenicol, Daptomycin, Erythromycin, Gentamicin, Linezolid, Quinupristin/Dalfopristin, Streptomycin, Tetracycline, Tigecyclin, Vancomycin;
- the second plate to test *Enterococcus faecium* from broilers including 12 antibiotics: Ciprofloxacin and the 11 common antibiotics.

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,
- Avilamycin: >16 µg/ml,
- Chloramphenicol: >16 µg/ml,
- Ciprofloxacin: >4 µg/ml,
- Clindamycin: >2 µg/ml,
- Daptomycin: >4 µg/ml,
- Erythromycin: >4 µg/ml,
- Gentamicin: >128 µg/ml,
- Linezolid: >4 µg/ml,
- Quinupristin/Dalfopristin: >4 µg/ml,
- Streptomycin: >512 µg/ml,
- Tetracycline: >8 µg/ml,
- Tigecyclin: >0.5 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

For antimicrobial resistance issue:

Interesting information about AMR in animals

<http://www.afssa.fr/Documents/SANT-Ra-FARM2006.pdf>

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>

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Gallus gallus (fowl) - broilers - Monitoring - official sampling - objective sampling

Enterococcus, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	E. faecalis		E. faecium	
	yes		yes	
	100		110	
Antimicrobials:	N	n	N	n
Amphenicols - Chloramphenicol	100	14	110	1
Tetracyclines - Tetracycline	100	91	110	98
Fluoroquinolones - Ciprofloxacin			110	1
Aminoglycosides - Streptomycin	100	26	110	25
Aminoglycosides - Gentamicin	100	0	110	0
Penicillins - Ampicillin	100	0	110	7
Fully sensitive	100	0	110	6
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	100	0	110	2
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	100	0	110	2
Glycylcyclines - Tigecycline	100	0	110	0
Lincosamides - Clindamycin	100	97		
Macrolides - Erythromycin	100	69	110	60
Orthosomycins - Avilamycin	100	2		
Oxazolidines - Linezolid	100	0	110	2
Resistant to 1 antimicrobial	100	3	110	38
Resistant to 2 antimicrobials	100	34	110	44
Resistant to 3 antimicrobials	100	32	110	18
Resistant to 4 antimicrobials	100	23	110	1
Resistant to >4 antimicrobials	100	8	110	3

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Gallus gallus (fowl) - broilers - Monitoring - official sampling - objective sampling

Enterococcus, non-pathogenic	E. faecalis		E. faecium	
	Isolates out of a monitoring program (yes/no)	yes		yes
Number of isolates available in the laboratory	100		110	
Antimicrobials:	N	n	N	n
Streptogramins - Quinupristin/Dalfopristin	100	0	110	3

Footnote:

Data from isolates collected in 2008.

Number of multiresistant isolates are calculates for the 12 and 13 antimicrobials tested for E.faecium and E.faecalis respectively

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Pigs - Monitoring - official sampling - objective sampling

Enterococcus, non-pathogenic Isolates out of a monitoring program (yes/no) Number of isolates available in the laboratory	E. faecium	
	yes	
	48	
Antimicrobials:	N	n
Amphenicols - Chloramphenicol	48	0
Tetracyclines - Tetracycline	48	35
Aminoglycosides - Streptomycin	48	20
Aminoglycosides - Gentamicin	48	0
Penicillins - Ampicillin	48	0
Fully sensitive	48	9
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	48	0
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	48	1
Glycylcyclines - Tigecycline	48	0
Lincosamides - Clindamycin	48	35
Macrolides - Erythromycin	48	13
Orthosomycins - Avilamycin	48	0
Oxazolidines - Linezolid	48	1
Resistant to 1 antimicrobial	48	6
Resistant to 2 antimicrobials	48	12
Resistant to 3 antimicrobials	48	9
Resistant to 4 antimicrobials	48	7
Resistant to >4 antimicrobials	48	5
Streptogramins - Quinupristin/Dalfopristin	48	6

Table Antimicrobial susceptibility testing of Enterococcus, non-pathogenic in Pigs - Monitoring - official sampling - objective sampling

Footnote:

data from isolates collected in 2008

number of multiresistant isolates are calculates for the 13 antimicrobials tested

Table Antimicrobial susceptibility testing of *E. faecalis* in *Gallus gallus* (fowl) - unspecified - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

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

E. faecalis	Gallus gallus (fowl) - unspecified - Monitoring - official sampling - objective sampling																									
	Isolates out of a monitoring program (yes/no)																									
	Number of isolates available in the laboratory																									
Antimicrobials:	Cut-off value	N	n	<=0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest	
Amphenicols - Chloramphenicol	32	100	14									1	27	58	0	1	8	5							2	64
Tetracyclines - Tetracycline	2	100	91						0	5	4	0	0	0	0	3	49	39	0						0.25	128
Aminoglycosides - Streptomycin	512	100	26												0	0	22	50	2	0	1	25		16	1024	
Aminoglycosides - Gentamicin	32	100	0									0	2	56	41	0	1	0	0	0	0				2	512
Penicillins - Ampicillin	4	100	0					0	1	16	79	3	1	0	0	0	0								0.12	32
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	100	0					0	1	8	41	49	1	0	0	0									0.12	16
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	100	0						0	0	60	40	0	0	0	0									0.25	16
Glycylcyclines - Tigecycline	0.25	100	0			3	22	58	17	0	0	0													0.03	1
Lincosamides - Clindamycin	1	100	97			0	0	1	1	0	1	97													0.03	1
Macrolides - Erythromycin	4	100	69					1	2	10	8	10	0	1	7	7	54								0.12	32
Orthosomycins - Avilamycin	8	100	2								27	67	4	0	0	2									1	16
Oxazolidines - Linezolid	4	100	0							3	57	40	0	0	0										0.5	8
Streptogramins	32	100	0						1	2	2	1	6	57	30	1										

Footnote:

data from isolates collected in 2008

values for Quinupristin/dalfopristin are not reported because of different breakpoints for *E. faecalis* (32) and *E. faecium* (4). The other breakpoint values are identical.

Table Antimicrobial susceptibility testing of *E. faecium* in Pigs - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

E. faecium	Pigs - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Amphenicols - Chloramphenicol	32	48	0									0	19	29	0	0	0	0							2	64	
Tetracyclines - Tetracycline	8	48	35						5	8	0	0	0	0	0	0	11	24	0						0.25	128	
Aminoglycosides - Streptomycin	512	48	20												0	16	10	2	0	0	7	13			16	1024	
Aminoglycosides - Gentamicin	512	48	0									1	27	20	0	0	0	0	0	0	0				2	512	
Penicillins - Ampicillin	4	48	0					4	4	10	10	3	17	0	0	0	0								0.12	32	
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	48	0					0	0	6	16	24	2	0	0	0									0.12	16	
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	48	1						3	31	4	9	0	0	0	1									0.25	16	
Glycylcyclines - Tigecycline	0.25	48	0			2	21	14	10	1	0	0													0.03	1	
Lincosamides - Clindamycin	1	48	35			0	0	8	3	2	0	35													0.03	1	
Macrolides - Erythromycin	4	48	13					4	1	1	5	20	4	0	0	1	12								0.12	32	
Orthosomycins - Avilamycin	16	48	0								0	25	23	0	0	0									1	16	
Oxazolidines - Linezolid	4	48	1							0	1	44	2	0	1										0.5	8	
Streptogramins - Quinupristin/Dalfopristin	32	48	6						0	10	3	9	20	6	0	0	0								0.25	32	

Footnote:

data from isolates collected in 2008

Table Antimicrobial susceptibility testing of *E. faecium* in *Gallus gallus* (fowl) - broilers - Monitoring - official sampling - objective sampling - quantitative data [Dilution method]

Concentration ($\mu\text{g/ml}$), number of isolates with a concentration of inhibition equal to

E. faecium	Gallus gallus (fowl) - broilers - Monitoring - official sampling - objective sampling																										
	Isolates out of a monitoring program (yes/no)																										
	Number of isolates available in the laboratory																										
Antimicrobials:	yes	110																									
	Cut-off value	N	n	≤ 0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	lowest	highest		
Amphenicols - Chloramphenicol	32	110	1									20	23	48	18	1	0	0							2	64	
Tetracyclines - Tetracycline	2	110	98						5	6	1	0	0	0	0	4	39	54	1						0.25	128	
Fluoroquinolones - Ciprofloxacin	4	110	1						11	16	18	39	25	1	0	0	0								0.25	32	
Aminoglycosides - Streptomycin	512	110	25												3	35	41	4	2	0	3	7	15	16	2048		
Aminoglycosides - Gentamicin	512	110	0									5	33	66	6	0	0	0	0	0	0				2	512	
Penicillins - Ampicillin	4	110	7					18	9	18	25	27	6	0	0	1	6								0.12	32	
Glycopeptides (Cyclic peptides, Polypeptides) - Daptomycin	4	110	2					6	9	13	52	26	2	0	0	2									0.12	16	
Glycopeptides (Cyclic peptides, Polypeptides) - Vancomycin	4	110	2						9	98	1	0	0	0	0	2									0.25	16	
Glycylcyclines - Tigecycline	0.25	110	0		1	13	68	28	0	0	0	0													0.015	1	
Macrolides - Erythromycin	4	110	60					16	3	13	12	3	3	4	4	4	4	44							0.12	64	
Oxazolidines - Linezolid	4	110	2							3	32	70	3	0	2										0.5	8	
Streptogramins - Quinupristin/Dalfopristin	32	110	3						6	17	18	42	24	1	0	0	2								0.25	32	

Footnote:

data from isolates collected in 2008

Table Cut-off values for antibiotic resistance of Enterococcus, non-pathogenic in Animals

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

		Concentration (microg/ml)		Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Streptomycin	CASFM	512	
	Gentamicin	CASFM	128	
Amphenicols	Chloramphenicol	CASFM	16	
Penicillins	Ampicillin	EUCAST CASFM	8	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin	EFSA EUCAST CASFM EURL	4	
	Daptomycin	EURL	4	
Macrolides	Erythromycin	EFSA CASFM EURL	4	
Streptogramins	Quinupristin/Dalfopristin	EFSA CASFM	4	
Tetracyclines	Tetracycline	CASFM	8	
Oxazolidinones	Linezolid	EFSA EUCAST CASFM EURL	4	
Orthosomycins	Avilamycin	EURL	16	
Fluoroquinolones	Ciprofloxacin	EURL	4	
Lincosamides	Clindamycin	CASFM	1	
Glycylcyclines	Tigecycline	EUCAST CASFM	0.5	

Table Cut-off values for antibiotic resistance of Enterococcus, non-pathogenic in Animals

Footnote:

breakpoints for *Enterococcus faecium*. A different breakpoint (32) is used for Quinupristin/dalfopristin for *Enterococcus faecalis*.

CASFM: Comité de l'Antibiogramme de la Société Française de Microbiologie;

EFSA: European Food Safety Authority;

EURL: European Union Reference Laboratory - Antimicrobial Resistance;

EUCAST: European Committee on Antimicrobial Susceptibility Testing

Table Cut-off values for antibiotic resistance of Enterococcus, non-pathogenic in Food

Test Method Used

Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Streptomycin		512	
	Gentamicin		32	
Amphenicols	Chloramphenicol		32	
Penicillins	Ampicillin		4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	
Oxazolidines	Linezolid		4	

Table Cut-off values for antibiotic resistance of Enterococcus, non-pathogenic in Feed

Test Method Used

Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Streptomycin		512	
	Gentamicin		32	
Amphenicols	Chloramphenicol		32	
Penicillins	Ampicillin		4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	
Oxazolidines	Linezolid		4	

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 Enterobacter sakazakii 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

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 assessment 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 departement vet services
- fish species susceptibles 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 fish 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 > 200ppm

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 AFSSA 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

France - 2009 Report on trends and sources of zoonoses

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

A.f.s.s.a

Quai Désiré Delmotte, 62200 Boulogne sur Mer

Table Histamine in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units in non-conformity	<= 100 mg/kg	>100 - <= 200 mg/kg	>200 - <= 400 mg/kg	> 400 mg/kg
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - Monitoring - official sampling (Wholesale market, domestic whole sale fish trading, auction market - Fish from DOMESTIC production)	CCA	Single	225g	29	0	29	0	0	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - Monitoring - official sampling (Wholesale market, domestic whole sale fish trading, auction market - Fish from IMPORTED production)	CCA	Single	225g	24	0	24	0	0	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at catering - Monitoring - official sampling (Fish from DOMESTIC production)	CCA	Single	225g	50	0	50	0	0	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at catering - Monitoring - official sampling (Fish from IMPORTED origin) ¹⁾	CCA	Single	225g	67	1	66	0	0	1
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at cutting plant - Monitoring - official sampling (imported fishes) ²⁾	CCA	Single	225g	17	1	16	0	1	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at cutting plant - domestic production - Monitoring - official sampling	CCA	Single	225g	31	0	31	0	0	0

Table Histamine in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units in non-conformity	<= 100 mg/kg	>100 - <= 200 mg/kg	>200 - <= 400 mg/kg	> 400 mg/kg
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - domestic production - Monitoring - official sampling (fishmonger)	CCA	Single	225g	36	0	36	0	0	0
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - domestic production - Monitoring - official sampling (supermarket) ³⁾	CCA	Single	225g	172	3	169	0	2	1
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - imported - Monitoring - official sampling (fishmonger) ⁴⁾	CCA	Single	225g	21	1	20	0	0	1
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured - at retail - imported - Monitoring - official sampling (supermarket) ⁵⁾	CCA	Single	225g	120	1	117	2	0	1

Comments:

- 1) Thunnus albacares (fish from Ecuador)
- 2) Thunnus albacares (fish from Ecuador)
- 3) 100-200ppm: Thunnus allalunga (fish from France), Clupea harengus (fish from France); >400ppm: sardinia pilchardus (fish from France)
- 4) Thunnus albacares (fishmonger, fish Sri Lanka).
- 5) Clupea harengus (fish from Norway), Thunnus thynnus (fish from Maldives Islands)

Footnote:

573 units tested in total, 9 positive, 7 units in non conformity (i.e >200 ppm) allocated between domestic production and imported (UE or third country) production and sampled in 4 different stages:

- fish monger
- supermarket
- market (auction, or wholesale or wholesalesfish trading)

Details for positive cases, also in comments (stage, country of origin)

Category of fish for > 100 ppm

100-200ppm: clupea harengus (supermarket Norway), thunnus thynnus (supermarket Maldives)

Category of fish for non-conformity

200-400ppm: thunnus allalunga (supermarket France), thunnus albacares (cutting plant Ecuador), clupea harengus (supermarket France)

>400ppm: thunnus albacares (catering Ecuador), sardinia pilchardus (supermarket France), thunnus albacares (supermarket Sri Lanka), thunnus albacares (fishmonger Sri Lanka).

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, epidemiological 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 efficacy, the command chain is short between central administration, the decision maker and the departments, the executives.

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.

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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 identified 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

	Total number of outbreaks	Outbreaks	Human cases	Hospitalized	Deaths	Number of verified outbreaks
Bacillus	83	57	507	16	0	26
Campylobacter	19	3	18	4	0	16
Clostridium	82	47	695	9	2	35
Escherichia coli, pathogenic	16	5	54	1	0	11
Foodborne viruses	77	54	1390	19	0	23
Listeria	0	0	unknown	unknown	unknown	0
Other agents	87	48	219	16	0	39
Parasites	0	0	unknown	unknown	unknown	0
Salmonella	147	43	503	27	0	104
Staphylococcus	218	167	1283	118	1	51
Unknown	530	473	4793	136	3	57
Yersinia	1	1	18	unknown	0	0

Table Verified Foodborne Outbreaks: detailed data for Bacillus

Please use CTRL for multiple selection fields

B. cereus

Value

Code	FR-2009-412
Outbreaks	1
Human cases	3
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-834
Outbreaks	1
Human cases	6
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-998
Outbreaks	1
Human cases	22
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-843
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-1138
Outbreaks	1
Human cases	6
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-297
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-914
Outbreaks	1
Human cases	25
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-1055
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-786
Outbreaks	1
Human cases	80
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-1210
Outbreaks	1
Human cases	39
Hospitalized	2
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-1052
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-453
Outbreaks	1
Human cases	17
Hospitalized	0
Deaths	0
Foodstuff implicated	Turkey meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-1071
Outbreaks	1
Human cases	7
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-506
Outbreaks	1
Human cases	3
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-624
Outbreaks	1
Human cases	95
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-921
Outbreaks	1
Human cases	12
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-718
Outbreaks	1
Human cases	20
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-1042
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-1065
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-1046
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Vegetables and juices and other products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-1241
Outbreaks	1
Human cases	20
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-993
Outbreaks	1
Human cases	20
Hospitalized	8
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-1229
Outbreaks	1
Human cases	7
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-928
Outbreaks	1
Human cases	30
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-421
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

B. cereus

Value

Code	FR-2009-1195
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Table Verified Foodborne Outbreaks: detailed data for Campylobacter

Please use CTRL for multiple selection fields

C. jejuni

Value

Code	FR-2009-1193
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Campylobacter spp., unspecified

Value

Code	FR-2009-861
Outbreaks	1
Human cases	26
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Broiler meat (Gallus gallus) and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Campylobacter spp., unspecified

Value

Code	FR-2009-383
Outbreaks	1
Human cases	11
Hospitalized	1
Deaths	0
Foodstuff implicated	Tap water, including well water
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. jejuni

Value

Code	FR-2009-488
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Bovine meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Campylobacter spp., unspecified

Value

Code	FR-2009-171
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Broiler meat (Gallus gallus) and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Campylobacter spp., unspecified

Value

Code	FR-2009-238
Outbreaks	1
Human cases	9
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Campylobacter spp., unspecified

Value

Code	FR-2009-10
Outbreaks	1
Human cases	6
Hospitalized	4
Deaths	0
Foodstuff implicated	Dairy products (other than cheeses)
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Campylobacter spp., unspecified

Value

Code	FR-2009-308
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. jejuni

Value

Code	FR-2009-995
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

C. jejuni

Value

Code	FR-2009-505
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. jejuni

Value

Code	FR-2009-163
Outbreaks	1
Human cases	3
Hospitalized	0
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Campylobacter spp., unspecified

Value

Code	FR-2009-725
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Campylobacter spp., unspecified

Value

Code	FR-2009-184
Outbreaks	1
Human cases	15
Hospitalized	1
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Campylobacter spp., unspecified

Value

Code	FR-2009-1
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Campylobacter spp., unspecified

Value

Code	FR-2009-221
Outbreaks	1
Human cases	10
Hospitalized	0
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Campylobacter spp., unspecified

Value

Code	FR-2009-127
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Table Verified Foodborne Outbreaks: detailed data for Clostridium

Please use CTRL for multiple selection fields

C. perfringens

Value

Code	FR-2009-952
Outbreaks	1
Human cases	26
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Turkey meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-20
Outbreaks	1
Human cases	19
Hospitalized	1
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-844
Outbreaks	1
Human cases	16
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-33
Outbreaks	1
Human cases	25
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-28
Outbreaks	1
Human cases	83
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-30
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Bovine meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-1200
Outbreaks	1
Human cases	20
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-595
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-839
Outbreaks	1
Human cases	17
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-368
Outbreaks	1
Human cases	50
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-716
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-1105
Outbreaks	1
Human cases	11
Hospitalized	2
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-426
Outbreaks	1
Human cases	7
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-564
Outbreaks	1
Human cases	37
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-1171
Outbreaks	1
Human cases	50
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-110
Outbreaks	1
Human cases	6
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-36
Outbreaks	1
Human cases	83
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-39
Outbreaks	1
Human cases	100
Hospitalized	0
Deaths	0
Foodstuff implicated	Vegetables and juices and other products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Clostridium spp., unspecified

Value

Code	FR-2009-526
Outbreaks	1
Human cases	3
Hospitalized	3
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-689
Outbreaks	1
Human cases	21
Hospitalized	1
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-639
Outbreaks	1
Human cases	5
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-1106
Outbreaks	1
Human cases	50
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-76
Outbreaks	1
Human cases	100
Hospitalized	0
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-1054
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-695
Outbreaks	1
Human cases	29
Hospitalized	1
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-850
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-1175
Outbreaks	1
Human cases	38
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Clostridium spp., unspecified

Value

Code	FR-2009-366
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Vegetables and juices and other products thereof
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-224
Outbreaks	1
Human cases	15
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-883
Outbreaks	1
Human cases	11
Hospitalized	1
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-963
Outbreaks	1
Human cases	3
Hospitalized	3
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

C. perfringens

Value

Code	FR-2009-1190
Outbreaks	1
Human cases	32
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

C. botulinum

Value

Code	FR-2009-350
Outbreaks	1
Human cases	3
Hospitalized	3
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	C. botulinum toxin

C. perfringens

Value

Code	FR-2009-318
Outbreaks	1
Human cases	20
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Inadequate heat treatment;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Clostridium spp., unspecified

Value

Code	FR-2009-66
Outbreaks	1
Human cases	6
Hospitalized	5
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Table Verified Foodborne Outbreaks: detailed data for Escherichia coli, pathogenic

Please use CTRL for multiple selection fields

E.coli, pathogenic, unspecified

Value

Code	FR-2009-525
Outbreaks	1
Human cases	5
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

E.coli, pathogenic, unspecified

Value

Code	FR-2009-815
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	

E.coli, pathogenic, unspecified

Value

Code	FR-2009-916
Outbreaks	1
Human cases	6
Hospitalized	1
Deaths	0
Foodstuff implicated	Bovine meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

E.coli, pathogenic, unspecified

Value

Code	FR-2009-597
Outbreaks	1
Human cases	19
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

E.coli, pathogenic, unspecified

Value

Code	FR-2009-145
Outbreaks	1
Human cases	30
Hospitalized	0
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

E.coli, pathogenic, unspecified

Value

Code	FR-2009-1220
Outbreaks	1
Human cases	5
Hospitalized	1
Deaths	0
Foodstuff implicated	Bovine meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

E.coli, pathogenic, unspecified

Value

Code	FR-2009-464
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Bovine meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

E.coli, pathogenic, unspecified

Value

Code	FR-2009-176
Outbreaks	1
Human cases	13
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

E.coli, pathogenic, unspecified

Value

Code	FR-2009-760
Outbreaks	1
Human cases	32
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

E.coli, pathogenic, unspecified

Value

Code	FR-2009-681
Outbreaks	1
Human cases	12
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

E.coli, pathogenic, unspecified

Value

Code	FR-2009-392
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Sheep meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Table Verified Foodborne Outbreaks: detailed data for Foodborne viruses

Please use CTRL for multiple selection fields

unspecified

Value

Code	FR-2009-90
Outbreaks	1
Human cases	27
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-745
Outbreaks	1
Human cases	50
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-474
Outbreaks	1
Human cases	10
Hospitalized	0
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-473
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-18
Outbreaks	1
Human cases	62
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-931
Outbreaks	1
Human cases	57
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-1192
Outbreaks	1
Human cases	14
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-34
Outbreaks	1
Human cases	55
Hospitalized	0
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-496
Outbreaks	1
Human cases	18
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-281
Outbreaks	1
Human cases	43
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-594
Outbreaks	1
Human cases	39
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-195
Outbreaks	1
Human cases	30
Hospitalized	0
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-499
Outbreaks	1
Human cases	30
Hospitalized	0
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-296
Outbreaks	1
Human cases	30
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-252
Outbreaks	1
Human cases	44
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-605
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-583
Outbreaks	1
Human cases	75
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-194
Outbreaks	1
Human cases	40
Hospitalized	0
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-571
Outbreaks	1
Human cases	20
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-746
Outbreaks	1
Human cases	2
Hospitalized	1
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-207
Outbreaks	1
Human cases	100
Hospitalized	0
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-846
Outbreaks	1
Human cases	100
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

unspecified

Value

Code	FR-2009-191
Outbreaks	1
Human cases	25
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Enteric virus

Table Verified Foodborne Outbreaks: detailed data for Other agents

Please use CTRL for multiple selection fields

Histamine

Value

Code	FR-2009-1235
Outbreaks	1
Human cases	5
Hospitalized	5
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Shigella - *S. flexneri*

Value

Code	FR-2009-539
Outbreaks	1
Human cases	10
Hospitalized	0
Deaths	0
Foodstuff implicated	Broiler meat (<i>Gallus gallus</i>) and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Vibrio - *V. parahaemolyticus*

Value

Code	FR-2009-754
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-724
Outbreaks	1
Human cases	2
Hospitalized	1
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-432
Outbreaks	1
Human cases	11
Hospitalized	5
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-814
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-429
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-1061
Outbreaks	1
Human cases	3
Hospitalized	3
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-515
Outbreaks	1
Human cases	9
Hospitalized	0
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-467
Outbreaks	1
Human cases	3
Hospitalized	0
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-1254
Outbreaks	1
Human cases	12
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Other

Value

Code	FR-2009-1203
Outbreaks	1
Human cases	4
Hospitalized	1
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-340
Outbreaks	1
Human cases	4
Hospitalized	0
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-1260
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Other

Value

Code	FR-2009-833
Outbreaks	1
Human cases	30
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other or mixed red meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Marine biotoxins

Value

Code	FR-2009-1172
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Other

Value

Code	FR-2009-1101
Outbreaks	1
Human cases	15
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Bovine meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-896
Outbreaks	1
Human cases	29
Hospitalized	15
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Other

Value

Code	FR-2009-1161
Outbreaks	1
Human cases	74
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Vibrio - *V. parahaemolyticus*

Value

Code	FR-2009-139
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Shigella - Shigella spp., unspecified

Value

Code	FR-2009-1132
Outbreaks	1
Human cases	7
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-41
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-514
Outbreaks	1
Human cases	8
Hospitalized	1
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Other

Value

Code	FR-2009-800
Outbreaks	1
Human cases	5
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Other Toxin

Shigella - *S. flexneri*

Value

Code	FR-2009-257
Outbreaks	1
Human cases	4
Hospitalized	4
Deaths	0
Foodstuff implicated	Tap water, including well water
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-1147
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Shigella - S. sonnei

Value

Code	FR-2009-305
Outbreaks	1
Human cases	5
Hospitalized	3
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Other

Value

Code	FR-2009-1094
Outbreaks	1
Human cases	4
Hospitalized	3
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Other Toxin

Histamine

Value

Code	FR-2009-1223
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-272
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-830
Outbreaks	1
Human cases	12
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Broiler meat (Gallus gallus) and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-108
Outbreaks	1
Human cases	3
Hospitalized	3
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Other

Value

Code	FR-2009-1202
Outbreaks	1
Human cases	12
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-398
Outbreaks	1
Human cases	3
Hospitalized	0
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-1064
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Histamine

Value

Code	FR-2009-712
Outbreaks	1
Human cases	3
Hospitalized	2
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

Shigella - Shigella spp., unspecified

Value

Code	FR-2009-136
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Shigella - Shigella spp., unspecified

Value

Code	FR-2009-98
Outbreaks	1
Human cases	15
Hospitalized	10
Deaths	0
Foodstuff implicated	Tap water, including well water
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Other

Value

Code	FR-2009-601
Outbreaks	1
Human cases	6
Hospitalized	6
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	Other Toxin

Table Verified Foodborne Outbreaks: detailed data for Salmonella

Please use CTRL for multiple selection fields

S. Typhimurium

Value

Code	FR-2009-12
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Broiler meat (Gallus gallus) and products thereof
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Paratyphi B

Value

Code	FR-2009-236
Outbreaks	1
Human cases	3
Hospitalized	3
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-45
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-441
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Hadar

Value

Code	FR-2009-129
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-490
Outbreaks	1
Human cases	3
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-231
Outbreaks	1
Human cases	5
Hospitalized	2
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-22
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-504
Outbreaks	1
Human cases	4
Hospitalized	3
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-459
Outbreaks	1
Human cases	18
Hospitalized	4
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-650
Outbreaks	1
Human cases	10
Hospitalized	4
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-232
Outbreaks	1
Human cases	20
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-898
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-811
Outbreaks	1
Human cases	17
Hospitalized	5
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-361
Outbreaks	1
Human cases	3
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Paratyphi B

Value

Code	FR-2009-873
Outbreaks	1
Human cases	4
Hospitalized	3
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-75
Outbreaks	1
Human cases	3
Hospitalized	2
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-1130
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-771
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-175
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-174
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-427
Outbreaks	1
Human cases	9
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-376
Outbreaks	1
Human cases	4
Hospitalized	4
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-1080
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-266
Outbreaks	1
Human cases	30
Hospitalized	2
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-521
Outbreaks	1
Human cases	4
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-1102
Outbreaks	1
Human cases	15
Hospitalized	5
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-524
Outbreaks	1
Human cases	6
Hospitalized	5
Deaths	0
Foodstuff implicated	Broiler meat (Gallus gallus) and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-114
Outbreaks	1
Human cases	2
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-314
Outbreaks	1
Human cases	4
Hospitalized	3
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-444
Outbreaks	1
Human cases	15
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-930
Outbreaks	1
Human cases	4
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-1142
Outbreaks	1
Human cases	4
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Newport

Value

Code	FR-2009-62
Outbreaks	1
Human cases	79
Hospitalized	3
Deaths	0
Foodstuff implicated	Crustaceans, shellfish, molluscs and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-665
Outbreaks	1
Human cases	3
Hospitalized	2
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-866
Outbreaks	1
Human cases	30
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-50
Outbreaks	1
Human cases	4
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Bredeney

Value

Code	FR-2009-349
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-69
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Broiler meat (Gallus gallus) and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-649
Outbreaks	1
Human cases	9
Hospitalized	3
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-470
Outbreaks	1
Human cases	4
Hospitalized	4
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-342
Outbreaks	1
Human cases	7
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-455
Outbreaks	1
Human cases	5
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-151
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-150
Outbreaks	1
Human cases	4
Hospitalized	0
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-237
Outbreaks	1
Human cases	4
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-591
Outbreaks	1
Human cases	7
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-289
Outbreaks	1
Human cases	70
Hospitalized	2
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-1244
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-732
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Milk
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-438
Outbreaks	1
Human cases	2
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-522
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-143
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Broiler meat (Gallus gallus) and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-172
Outbreaks	1
Human cases	2
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-1006
Outbreaks	1
Human cases	7
Hospitalized	7
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-680
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-24
Outbreaks	1
Human cases	4
Hospitalized	1
Deaths	0
Foodstuff implicated	Turkey meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-56
Outbreaks	1
Human cases	9
Hospitalized	3
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterica subsp. arizonae

Value

Code	FR-2009-192
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-113
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-645
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Dublin

Value

Code	FR-2009-1127
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-985
Outbreaks	1
Human cases	27
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-758
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Broiler meat (Gallus gallus) and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-1057
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Bakery products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-498
Outbreaks	1
Human cases	11
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Bovine meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-316
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-425
Outbreaks	1
Human cases	12
Hospitalized	3
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-148
Outbreaks	1
Human cases	2
Hospitalized	1
Deaths	1
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-84
Outbreaks	1
Human cases	4
Hospitalized	0
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-454
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-178
Outbreaks	1
Human cases	4
Hospitalized	4
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-452
Outbreaks	1
Human cases	6
Hospitalized	1
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-106
Outbreaks	1
Human cases	9
Hospitalized	2
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-169
Outbreaks	1
Human cases	3
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-899
Outbreaks	1
Human cases	10
Hospitalized	7
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-517
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-813
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-384
Outbreaks	1
Human cases	15
Hospitalized	2
Deaths	0
Foodstuff implicated	Bakery products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Newport

Value

Code	FR-2009-656
Outbreaks	1
Human cases	79
Hospitalized	4
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-71
Outbreaks	1
Human cases	11
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-301
Outbreaks	1
Human cases	8
Hospitalized	2
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-439
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-720
Outbreaks	1
Human cases	2
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-857
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-271
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-341
Outbreaks	1
Human cases	20
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-233
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-13
Outbreaks	1
Human cases	4
Hospitalized	0
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-654
Outbreaks	1
Human cases	3
Hospitalized	3
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-65
Outbreaks	1
Human cases	3
Hospitalized	2
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-894
Outbreaks	1
Human cases	5
Hospitalized	2
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. Napoli

Value

Code	FR-2009-164
Outbreaks	1
Human cases	40
Hospitalized	2
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-306
Outbreaks	1
Human cases	4
Hospitalized	4
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-987
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. Newport

Value

Code	FR-2009-1153
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-268
Outbreaks	1
Human cases	4
Hospitalized	1
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-904
Outbreaks	1
Human cases	2
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-1189
Outbreaks	1
Human cases	12
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-451
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Typhimurium

Value

Code	FR-2009-93
Outbreaks	1
Human cases	8
Hospitalized	1
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-935
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Salmonella spp., unspecified

Value

Code	FR-2009-480
Outbreaks	1
Human cases	8
Hospitalized	3
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. Enteritidis

Value

Code	FR-2009-300
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Bakery products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Table Verified Foodborne Outbreaks: detailed data for Staphylococcus

Please use CTRL for multiple selection fields

S. aureus

Value

Code	FR-2009-483
Outbreaks	1
Human cases	3
Hospitalized	2
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-905
Outbreaks	1
Human cases	16
Hospitalized	16
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-1139
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Staphylococcus spp., unspecified

Value

Code	FR-2009-780
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-664
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Staphylococcus spp., unspecified

Value

Code	FR-2009-1231
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-1009
Outbreaks	1
Human cases	8
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-918
Outbreaks	1
Human cases	8
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-1255
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-182
Outbreaks	1
Human cases	4
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-944
Outbreaks	1
Human cases	11
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-292
Outbreaks	1
Human cases	23
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-273
Outbreaks	1
Human cases	20
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-1012
Outbreaks	1
Human cases	3
Hospitalized	2
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-694
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Dairy products (other than cheeses)
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-538
Outbreaks	1
Human cases	8
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-320
Outbreaks	1
Human cases	3
Hospitalized	2
Deaths	2
Foodstuff implicated	Dairy products (other than cheeses)
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-848
Outbreaks	1
Human cases	11
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Inadequate heat treatment
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-1014
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-699
Outbreaks	1
Human cases	17
Hospitalized	17
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-713
Outbreaks	1
Human cases	12
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-1135
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-391
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-581
Outbreaks	1
Human cases	10
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Broiler meat (Gallus gallus) and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Staphylococcus spp., unspecified

Value

Code	FR-2009-1022
Outbreaks	1
Human cases	10
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Eggs and egg products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-1023
Outbreaks	1
Human cases	21
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-739
Outbreaks	1
Human cases	16
Hospitalized	6
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-389
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-1199
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Staphylococcus spp., unspecified

Value

Code	FR-2009-1162
Outbreaks	1
Human cases	11
Hospitalized	3
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-791
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Milk
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

Staphylococcus spp., unspecified

Value

Code	FR-2009-1045
Outbreaks	1
Human cases	25
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Bakery products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-362
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-393
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Cereal products including rice and seeds/pulses (nuts, almonds)
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Staphylococcus spp., unspecified

Value

Code	FR-2009-723
Outbreaks	1
Human cases	45
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-910
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-812
Outbreaks	1
Human cases	14
Hospitalized	2
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-1104
Outbreaks	1
Human cases	7
Hospitalized	7
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-1126
Outbreaks	1
Human cases	9
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Bovine meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-1136
Outbreaks	1
Human cases	4
Hospitalized	4
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Staphylococcus spp., unspecified

Value

Code	FR-2009-671
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-607
Outbreaks	1
Human cases	4
Hospitalized	1
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-563
Outbreaks	1
Human cases	52
Hospitalized	20
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-1060
Outbreaks	1
Human cases	6
Hospitalized	2
Deaths	0
Foodstuff implicated	Bovine meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-74
Outbreaks	1
Human cases	3
Hospitalized	2
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Staphylococcus spp., unspecified

Value

Code	FR-2009-599
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-741
Outbreaks	1
Human cases	2
Hospitalized	1
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-849
Outbreaks	1
Human cases	14
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. aureus

Value

Code	FR-2009-96
Outbreaks	1
Human cases	5
Hospitalized	0
Deaths	0
Foodstuff implicated	Other or unspecified poultry meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-1221
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

S. enterotoxins

Value

Code	FR-2009-663
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Table Verified Foodborne Outbreaks: detailed data for Unknown

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Unknown

Value

Code	FR-2009-1232
Outbreaks	1
Human cases	25
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-726
Outbreaks	1
Human cases	15
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-682
Outbreaks	1
Human cases	5
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1069
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-878
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-853
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-637
Outbreaks	1
Human cases	14
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Dairy products (other than cheeses)
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-731
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1100
Outbreaks	1
Human cases	37
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-897
Outbreaks	1
Human cases	9
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1084
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-698
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1144
Outbreaks	1
Human cases	24
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1236
Outbreaks	1
Human cases	7
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Bovine meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1119
Outbreaks	1
Human cases	2
Hospitalized	1
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-929
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-945
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-734
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-495
Outbreaks	1
Human cases	20
Hospitalized	0
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-867
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-948
Outbreaks	1
Human cases	3
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1228
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-572
Outbreaks	1
Human cases	6
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-673
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1214
Outbreaks	1
Human cases	8
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1027
Outbreaks	1
Human cases	12
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-693
Outbreaks	1
Human cases	2
Hospitalized	1
Deaths	0
Foodstuff implicated	Pig meat and products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in implicated food
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-782
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1117
Outbreaks	1
Human cases	9
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-767
Outbreaks	1
Human cases	30
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-609
Outbreaks	1
Human cases	27
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-797
Outbreaks	1
Human cases	3
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Unknown
Setting	Unknown
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-573
Outbreaks	1
Human cases	90
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-879
Outbreaks	1
Human cases	81
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1211
Outbreaks	1
Human cases	25
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-562
Outbreaks	1
Human cases	7
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Other contributory factor
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-602
Outbreaks	1
Human cases	4
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1234
Outbreaks	1
Human cases	7
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-612
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-999
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-781
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-874
Outbreaks	1
Human cases	4
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-819
Outbreaks	1
Human cases	19
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Vegetables and juices and other products thereof
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Camp, picnic
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-168
Outbreaks	1
Human cases	2
Hospitalized	0
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-697
Outbreaks	1
Human cases	15
Hospitalized	10
Deaths	0
Foodstuff implicated	Tap water, including well water
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1123
Outbreaks	1
Human cases	9
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Cheese
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1088
Outbreaks	1
Human cases	4
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1007
Outbreaks	1
Human cases	3
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-675
Outbreaks	1
Human cases	11
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Other foods
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1227
Outbreaks	1
Human cases	15
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Fish and fish products
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	General
Setting	Canteen or workplace catering
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-611
Outbreaks	1
Human cases	8
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	School, kindergarten
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1049
Outbreaks	1
Human cases	11
Hospitalized	1
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	Household
Setting	Temporary mass catering (fairs, festivals)
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1230
Outbreaks	1
Human cases	14
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Other setting
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-1037
Outbreaks	1
Human cases	8
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-852
Outbreaks	1
Human cases	11
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Mixed or buffet meals
More Foodstuff information	Unknown
Type of evidence	Laboratory detection in human cases;Laboratory detection in implicated food
Outbreak type	General
Setting	Hospital or medical care facility
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Infected food handler;Storage time/temperature abuse;Unprocessed contaminated ingredient
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-882
Outbreaks	1
Human cases	2
Hospitalized	2
Deaths	0
Foodstuff implicated	Unknown
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Storage time/temperature abuse
Other Agent (Mixed Outbreaks)	
Comment	

Unknown

Value

Code	FR-2009-865
Outbreaks	1
Human cases	2
Hospitalized	unknown
Deaths	0
Foodstuff implicated	Milk
More Foodstuff information	Unknown
Type of evidence	Analytical epidemiological evidence;Laboratory detection in human cases
Outbreak type	Household
Setting	Household
Place of origin of problem	Unknown
Origin of foodstuff	Unknown
Contributory factors	Unknown
Other Agent (Mixed Outbreaks)	
Comment	