

## BULGARIA

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

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

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

IN 2010

## INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Bulgaria

Reporting Year:

Laboratory name	Description	Contribution
		Brucelloses, Bruceloidoses, Leptospirosis, Malleus, Enzootic Bovine Leucosis, Salmonellosis, Trichinellosis, Anthrax, TSE, CSF, Rabies, Tuberculosis
		Brucelloses, Bruceloidoses, Leptospirosis, Malleus, Enzootic Bovine Leucosis, Salmonellosis, Trichinellosis, Anthrax, TSE, CSF, Rabies, Tuberculosis
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## 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 Bulgaria during the year 2010 .

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

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

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

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

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

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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 HQ of NVS collected the data from the RVS-s about the number of the animals and the animal holdings.

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

The animal holding is the place where the animals are kept.

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

The Republic of Bulgaria is divided on the 28 administrative districts. At the HQ of NVS is collected the data for the all regions.

### Additional information

no

Table Susceptible animal populations

\* Only if different than current reporting year

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Cattle (bovine animals)	meat production animals			15265		253211		2960	
	mixed herds			3987		801			
	dairy cows and heifers			18997		798032		82021	
	calves (under 1 year)			14687		112876		42903	
	- in total	129454				1164920			
Ducks	- in total			4123651		1120987		127060	
Gallus gallus (fowl)	mixed flocks/holdings					3678908			
	broilers					8967890			
	laying hens					4235891			
Goats	mixed herds			203		45			
	meat production animals			4123		121098			
	animals over 1 year					487345			
	milk goats					435678			

Table Susceptible animal populations

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Goats	animals under 1 year			3946		30213			
	- in total					1074379		97979	
Pigs	breeding animals					215439			
	fattening pigs			512478					
	mixed herds			25438		35432			
	- in total	68902							
Sheep	mixed herds			2890		234			
	milk ewes					1932480			
	meat production animals			567821		255671			
	animals under 1 year (lambs)			567821		241267			
	- in total					2429652		142269	
Solipeds, domestic	horses - in total	125390		6123		171231		124727	
Turkeys	- in total			49890		37689		15	

Table Susceptible animal populations

## 2. INFORMATION ON SPECIFIC ZOONOSES AND ZOONOTIC AGENTS

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

## 2.1 SALMONELLOSIS

### 2.1.1 General evaluation of the national situation

#### A. General evaluation

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

Since 1 Jan. 2007 NVS implements the multy annual technical program for control of Salmonellosis for breeding flocks poultry.

With COMMISSION DECISION, concerning a Community financial contribution towards a baseline survey on the prevalence of Salmonella in turkeys to be carried out in Bulgaria and in Romania (2007/208/EC) NVS implements survey program.

With COMMISSION DECISION 2007/219/EC concerning a Community financial contribution towards a baseline survey on the prevalence of Salmonella in slaughter pigs to be carried out in Bulgaria and in Romania NVS implements survey program.

MULTI-ANNUAL CONTROL PROGRAMME ON SALMONELLA IN LAYING HENS OF GALLUS GALLUS was drafted and sent to the Comm. for approaval. The implementation of the program will start on 1 Jan. 2008.

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

no data available

##### Recent actions taken to control the zoonoses

since now NVS takes samples for Salmonella bacteria from:

fresh broiler meat;

fresh pig meat;

fresh turkey meat;

table eggs;

cloacal swabs of breeding flocks;

cloacal swabs of broiler flocks;

fecal samples of fattening pigs.

##### Suggestions to the Community for the actions to be taken

no

##### Additional information

no

## 2.1.2 Salmonellosis in humans

### A. Salmonellosis in humans

Reporting system in place for the human cases

A competent authority is a Ministry of health.

## 2.1.3 Salmonella in foodstuffs

### A. Salmonella spp. in pig meat and products thereof

#### Monitoring system

##### Sampling strategy

At slaughterhouse and cutting plant

In each slaughterhouse and cutting plant there is a program for monitoring of Salmonella spp.

The samples shall be taken from each pig batch.

At meat processing plant

As a Member State, Bulgaria implements Council Regulation 2073/2004/EC

At retail

no

#### Methods of sampling (description of sampling techniques)

At slaughterhouse and cutting plant

according COMMISSION DECISION 2007/219/EC, concerning a Community financial contribution towards a baseline survey on the prevalence of Salmonella in slaughter pigs to be carried out in Bulgaria and in Romania

#### Preventive measures in place

Regarding the State Profilaxis Program of Bulgaria in the outbreaks there is a vaccination of pigs twice per year (at the first day after born and 15 days after that.)

In all backyards and commercial holdings there are biosecurity measures according to the EU legislation.

#### Control program/mechanisms

##### The control program/strategies in place

The control programme is according to the Commission Decision 2007/219 EC

##### Suggestions to the Community for the actions to be taken

No

#### Notification system in place

WAHIS

#### Results of the investigation

No data available

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

No data available

#### Additional information

NO



## **B. *Salmonella* spp. in bovine meat and products thereof**

### **Monitoring system**

#### **Sampling strategy**

At slaughterhouse and cutting plant

As a member state, we implement EU legislation.

The sampling strategy is according to Reg. 2073/2005/EC.

## C. *Salmonella* spp. in broiler meat and products thereof

### **Monitoring system**

#### **Sampling strategy**

At slaughterhouse and cutting plant

As a member state, we implement EU legislation.

The sampling strategy is according to Reg. 2073/2005/EC.

At meat processing plant

The official inspections in the establishments for production, storage and trade with food are carried out in accordance with the Council Regulation 854/2004, laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption.

The number of samples has been calculated by the official veterinarians on the basis of risk assessment and the type and quality of the materials included in the food processing and the results of the previous inspections.

At the regional veterinary services (RVSs) the schedule for inspections in the controlled establishments of food was elaborated.

The samples from foods of poultry origin shall be taken and preceded as provided in Council Regulation 2073/2005. The frequency of sample taking could be increased and decreased on the basis of the results of the sample testing.

At retail

The official inspections in the establishments for production, storage and trade with food are carried out in accordance with the Council Regulation 854/2004, laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption.

The number of samples has been calculated by the official veterinarians on the basis of risk assessment and the type and quality of the materials included in the food processing and the results of the previous inspections.

At the regional veterinary services (RVSs) the schedule for inspections in the controlled establishments of food was elaborated.

The samples from foods of poultry origin shall be taken and preceded as provided in Council Regulation 2073/2005. The frequency of sample taking could be increased and decreased on the basis of the results of the sample testing.

### **Definition of positive finding**

At slaughterhouse and cutting plant

The broiler meat could be used for human consumption if they are treated in a manner that guarantees the elimination of *Salmonella enteritidis* and *Salmonella typhimurium* in accordance with Community legislation on food hygiene.

### **Preventive measures in place**

There are strict bio- security measures in the broiler holdings

Bio-security is a combination of practices, which are intended to prevent the spread of disease-causing organisms within the poultry farm. Where these are performed in parallel with the sanitation and disinfection procedures, bio-security measures could eradicate or, at least, reduce the level of pathogens to values, at which no hazard of infection would be likely.

The bio-security measures in industrial poultry farms, small farms and private backyards are in

accordance to the manual of Bio- security measures, issued by USAID Bulgaria and with the EC requirements.

**Bio-security measures on holdings:**

Health status of poultry

On entering to all houses on the farm must be located disinfection barrier

Control of movement of people

Transport hygiene

Feed hygiene

Water hygiene

Rodent, insect and bird control

Cleaning and disinfecting of buildings

Recording of all events and operations

For each buildings must be applied self instruments

**Control program/mechanisms**

Suggestions to the Community for the actions to be taken

no

**Measures in case of the positive findings or single cases**

The broiler meat could be used for human consumption if they are treated in a manner that guarantees the elimination of *Salmonella enteritidis* and *Salmonella typhimurium* in accordance with Community legislation on food hygiene.

**Additional information**

no

## D. *Salmonella* spp. in eggs and egg products

### **Monitoring system**

#### **Sampling strategy**

As a member state, we implement EU legislation.

The sampling strategy is according to Reg. 2073/2005/EC.

## E. *Salmonella* spp. in turkey meat and products thereof

### **Monitoring system**

#### **Sampling strategy**

At slaughterhouse and cutting plant

As a member state, we implement EU legislation.

The sampling strategy is according to Reg. 2073/2005/EC.

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
Meat from broilers ( <i>Gallus gallus</i> ) - fresh - at retail		Batch		8677	6			6
Meat from broilers ( <i>Gallus gallus</i> ) - meat preparation - intended to be eaten cooked - at retail		Batch		6128	12			12
Meat from broilers ( <i>Gallus gallus</i> ) - meat products - cooked, ready-to-eat - at retail		Batch		453	0			
Meat from broilers ( <i>Gallus gallus</i> ) - meat products - raw but intended to be eaten cooked - at retail		Batch		2398	0			
Meat from broilers ( <i>Gallus gallus</i> ) - mechanically separated meat (MSM)		Batch		751	3			3
Meat from broilers ( <i>Gallus gallus</i> ) - minced meat - intended to be eaten cooked - at retail		Batch		734	0			0
Meat from duck - at retail		Batch		974	0			0
Meat from turkey - fresh - at retail		Batch		46	0			
Meat from turkey - meat preparation - intended to be eaten cooked - at retail		Batch		105	0			
Meat from turkey - meat products - cooked, ready-to-eat - at retail		Batch		10	0			
Meat from turkey - meat products - raw but intended to be eaten cooked - at retail		Batch		13	0			0
Meat from turkey - mechanically separated meat (MSM)		Batch		63	0			

Table Salmonella in poultry meat and products thereof

Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Meat from turkey - minced meat - intended to be eaten cooked - at retail	Batch		79	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cheeses made from cows' milk - at retail		Batch		535	0			
Cheeses made from cows' milk - soft and semi-soft - at retail		Batch		901	0			
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail		Batch		4578	0			
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail		Batch		1950	0			
Cheeses made from goats' milk - at retail		Batch		785	0			
Cheeses made from goats' milk - soft and semi-soft - at retail		Batch		41	0			
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at retail		Batch		198	0			
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail		Batch		18	0			
Cheeses made from sheep's milk - at retail		Batch		1225	0			
Cheeses made from sheep's milk - soft and semi-soft - at retail		Batch		82	0			
Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at retail		Batch		1576	0			
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at processing plant		Batch		366	0			

Table Salmonella in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at retail		Batch		366	0			
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at retail		Batch		210	0			
Dairy products (excluding cheeses) - ice-cream - at retail		Batch		412	0			
Dairy products (excluding cheeses) - milk powder and whey powder - at retail		Batch		44	0			
Milk, cows' - pasteurised milk - at retail		Batch		34	0			
Milk, cows' - raw		Batch		15	0			
Milk, cows' - raw milk for manufacture - intended for manufacture of pasteurised/UHT products		Batch		5	0			
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products		Batch		5	0			

Table Salmonella in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Crustaceans - unspecified - cooked - at retail		Batch		55	0			
Crustaceans - unspecified - raw - at retail		Batch		7	0			
Egg products - at retail		Batch		1122	0			
Eggs - raw material (liquid egg) for egg products		Batch		88	0			
Eggs - table eggs - at packing centre		Batch		5150	0			
Eggs - table eggs - at retail		Batch		1021	2			2
Fishery products, unspecified - at retail		Batch		465	0			
Fruits and vegetables - precut		Batch		107	0			
Live bivalve molluscs		Batch		188	0			0
Molluscan shellfish - cooked - at retail		Batch		170	0			
Molluscan shellfish - raw - at retail		Batch		68	0			

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Meat from bovine animals - fresh - at retail		Batch		1070	1			1
Meat from bovine animals - meat preparation - intended to be eaten raw - at retail		Batch		435	0			
Meat from bovine animals - meat preparation - intended to be eaten cooked - at retail		Batch		1956	4	2		2
Meat from bovine animals - meat products - cooked, ready-to-eat - at retail		Batch		29	0			
Meat from bovine animals - meat products - raw but intended to be eaten cooked - at retail		Batch		411	0			
Meat from bovine animals - mechanically separated meat (MSM) - at retail		Batch		12	0			
Meat from bovine animals - minced meat - intended to be eaten raw - at retail		Batch		38	0			
Meat from bovine animals - minced meat - intended to be eaten cooked - at retail		Batch		555	0			
Meat from horse - fresh - at retail		Batch		23	0			
Meat from pig - fresh - at retail		Batch		4003	1	1		
Meat from pig - meat preparation - intended to be eaten raw - at retail		Batch		187	0			
Meat from pig - meat preparation - intended to be eaten cooked - at retail		Batch		8976	13	5		8
Meat from pig - meat products - cooked, ready-to-eat - at retail		Batch		3008	1			1

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Meat from pig - meat products - raw but intended to be eaten cooked - at retail		Batch		2335	3			3
Meat from pig - mechanically separated meat (MSM)		Batch		321	0			
Meat from pig - minced meat - intended to be eaten raw - at retail		Batch		5	0			
Meat from pig - minced meat - intended to be eaten cooked - at retail		Batch		6782	12	1		11
Meat from sheep - fresh - at retail		Batch		214	0			

## 2.1.4 **Salmonella in animals**

### A. **Salmonella spp. in bovine animals**

#### **Monitoring system**

##### **Sampling strategy**

as a member state, we implement EU legislation.

The sampling strategy is according to Reg. 2073/2005/EC

## B. *Salmonella* spp. in ducks - breeding flocks and meat production flocks

### **Monitoring system**

#### **Sampling strategy**

##### **Breeding flocks**

As a member state, we implement EU legislation.

The sampling strategy is according to Reg. 2073/2005/EC.

## C. *Salmonella* spp. in geese - breeding flocks and meat production flocks

### **Monitoring system**

#### **Sampling strategy**

##### **Breeding flocks**

As a member state, we implement EU legislation.

The sampling strategy is according to Reg. 2073/2005/EC.

## D. *Salmonella* spp. in pigs

### Monitoring system

#### Sampling strategy

##### Breeding herds

The Republic of Bulgaria implements the baseline survey for breeding pigs. The survey started at the begining of 2008

##### Fattening herds

The sampling strategy is in accordance with the Commission Decision (2007/219/Д•Дз)

## E. *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)

The sampling strategy is in accordance with COMMISSION DECISION  
(2007/208/EC)

concerning a Community financial contribution towards a baseline survey on the prevalence of *Salmonella* in turkeys to be carried out in Bulgaria and in Romania

#### **Meat production flocks**

The sampling strategy is in accordance with COMMISSION DECISION  
(2007/208/EC)

concerning a Community financial contribution towards a baseline survey on the prevalence of *Salmonella* in turkeys to be carried out in Bulgaria and in Romania

#### **Methods of sampling (description of sampling techniques)**

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

The sampling strategy is in accordance with COMMISSION DECISION  
(2007/208/EC)

concerning a Community financial contribution towards a baseline survey on the prevalence of *Salmonella* in turkeys to be carried out in Bulgaria and in Romania

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

The sampling strategy is in accordance with COMMISSION DECISION  
(2007/208/EC)

concerning a Community financial contribution towards a baseline survey on the prevalence of *Salmonella* in turkeys to be carried out in Bulgaria and in Romania

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

The sampling strategy is in accordance with COMMISSION DECISION  
(2007/208/EC)

concerning a Community financial contribution towards a baseline survey on the prevalence of *Salmonella* in turkeys to be carried out in Bulgaria and in Romania

#### **Meat production flocks: Day-old chicks**

The sampling strategy is in accordance with COMMISSION DECISION  
(2007/208/EC)

concerning a Community financial contribution towards a baseline survey on the prevalence of *Salmonella* in turkeys to be carried out in Bulgaria and in Romania

#### **Meat production flocks: Rearing period**

The sampling strategy is in accordance with COMMISSION DECISION  
(2007/208/EC)

concerning a Community financial contribution towards a baseline survey on the prevalence of *Salmonella* in turkeys to be carried out in Bulgaria and in Romania

#### **Meat production flocks: Before slaughter at farm**

The sampling strategy is in accordance with COMMISSION DECISION  
(2007/208/EC)

concerning a Community financial contribution towards a baseline survey on the prevalence of  
Salmonella in turkeys to be carried out in Bulgaria and in Romania

Meat production flocks: At slaughter (flock based approach)

n/a

Table Salmonella in breeding flocks of *Gallus gallus*

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks			Flock	5	1	1					
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period			Flock	55	2	2					
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult			Flock	183	3						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks			Flock	63	0						
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period			Flock	72	8		2	1			
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult			Flock	1579	3			1			
Gallus gallus (fowl) - parent breeding flocks for broiler production line - unspecified			Flock	5	0						
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks			Flock	32	0						
Gallus gallus (fowl) - parent breeding flocks, unspecified - during rearing period			Flock	28	0						
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult			Flock	69	0						
Gallus gallus (fowl) - parent breeding flocks, unspecified - unspecified			Flock	3	0						

Table Salmonella in breeding flocks of *Gallus gallus*

	Salmonella spp., unspecified	S. Corvallis
Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks		
Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period		
Gallus gallus (fowl) - parent breeding flocks for egg production line - adult	3	
Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks		
Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period	3	2
Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult	1	1
Gallus gallus (fowl) - parent breeding flocks for broiler production line - unspecified		
Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks		
Gallus gallus (fowl) - parent breeding flocks, unspecified - during rearing period		
Gallus gallus (fowl) - parent breeding flocks, unspecified - adult		
Gallus gallus (fowl) - parent breeding flocks, unspecified - unspecified		

Table Salmonella in other birds

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Guinea fowl		Animal	70	0			
Ostriches		Animal	5	0			
Partridges		Animal	55	0			
Pheasants		Animal	49	0			
Pigeons		Animal	12	0			
Quails		Animal	15	0			
Parrots		Animal	1	0			

Table Salmonella in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Cattle (bovine animals) - adult cattle over 2 years		Animal	387	1				1
Cattle (bovine animals) - calves (under 1 year)		Animal	48	0				
Goats		Animal	19	0				
Pigs		Herd	167	10	3	4		3
Pigs - breeding animals		Herd	22	0				
Pigs - fattening pigs		Herd	104	9	3	6		
Sheep		Herd	35	0				
Solipeds, domestic		Herd	11	1				1

Table Salmonella in other poultry

	Number of existing flocks	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i;	Salmonella spp., unspecified	S. Agona	S. Infantis
Gallus gallus (fowl) - laying hens - day-old chicks			Animal	40	0						
Gallus gallus (fowl) - laying hens - during rearing period			Animal	276	15	4				1	10
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official and industry sampling			Animal	272	13	3				1	9
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - sampling by industry			Animal	25	6	1			3	1	1
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - objective sampling			Animal	247	12	1			2	1	8
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes - official sampling - suspect sampling			Animal	17	2	1					1
Gallus gallus (fowl) - broilers - day-old chicks			Animal	18	0						
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes - official and industry sampling			Animal	769	25		1		14		10
Ducks - breeding flocks, unspecified			Animal	2	0						

## 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
Pet food - dog snacks (pig ears, chewing bones)		Batch		123	0			

Table Salmonella in feed material of animal origin

Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Feed material of land animal origin - blood meal	Batch		1	0			
Feed material of land animal origin - dairy products	Batch		185	0			
Feed material of land animal origin - meat and bone meal	Batch		15	0			
Feed material of marine animal origin - fish meal	Batch		1	0			

**Table Salmonella in other feed matter**

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Feed material of cereal grain origin - barley derived		Batch		1	0			
Feed material of cereal grain origin - wheat derived		Batch		1	0			
Feed material of oil seed or fruit origin - groundnut derived		Batch		18	0			

## 2.1.6 Antimicrobial resistance in *Salmonella* isolates

### A. Antimicrobial resistance in *Salmonella* in cattle

Sampling strategy used in monitoring

Frequency of the sampling

no data available

Type of specimen taken

no data available

Methods of sampling (description of sampling techniques)

no data available

Procedures for the selection of isolates for antimicrobial testing

no data available

Methods used for collecting data

no data available

Laboratory methodology used for identification of the microbial isolates

no data available

Laboratory used for detection for resistance

Antimicrobials included in monitoring

NDSRVMI -National Diagnostic Scientific Research Veterinary Medicine Institute,

Control program/mechanisms

The control program/strategies in place

no control program is drafted

Recent actions taken to control the zoonoses

no control program is drafted

Suggestions to the Community for the actions to be taken

no

Measures in case of the positive findings or single cases

The actions are in accordance with the Community legislation

Notification system in place

WAHIS

Results of the investigation

no data available

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

n/a

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

no data available

Additional information

no

## **B. Antimicrobial resistance in *Salmonella* in foodstuff derived from cattle**

### **Sampling strategy used in monitoring**

Frequency of the sampling

no data available

Type of specimen taken

no data available

Methods of sampling (description of sampling techniques)

no data available

Procedures for the selection of isolates for antimicrobial testing

no data available

Methods used for collecting data

no data available

Laboratory methodology used for identification of the microbial isolates

no data available

Laboratory used for detection for resistance

Antimicrobials included in monitoring

no data available

Cut-off values used in testing

no data available

Preventive measures in place

no data available

Control program/mechanisms

The control program/strategies in place

no data available

Recent actions taken to control the zoonoses

no data available

Suggestions to the Community for the actions to be taken

no data available

Measures in case of the positive findings or single cases

no data available

Notification system in place

WAHIS

Results of the investigation

no data available

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

no data available

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

no data available

Additional information

no

## C. Antimicrobial resistance in Salmonella in foodstuff derived from pigs

### **Sampling strategy used in monitoring**

#### **Frequency of the sampling**

The frequency of sampling is in accordance with the Regulation 2073/2005/EC

#### **Methods of sampling (description of sampling techniques)**

The methods of samling are in accordance with the Regulation 2073/2005/EC

#### **Procedures for the selection of isolates for antimicrobial testing**

In accordance with ISO 17604

#### **Methods used for collecting data**

With regard to the Community legislation

### **Laboratory used for detection for resistance**

#### **Antimicrobials included in monitoring**

Erithromycin

Ciprofoxacin

Tetracyclin

Streptomycin

Gentamycin

### **Preventive measures in place**

The preventive measures are in accordance with the Community legislation

### **Control program/mechanisms**

#### **The control program/strategies in place**

In 2007 was implemented a control programmed for slaughter pigs. the results were reported to the EC

#### **Recent actions taken to control the zoonoses**

with regard to the Community legislation

#### **Suggestions to the Community for the actions to be taken**

no

### **Measures in case of the positive findings or single cases**

The measures in case of the positive findings are in accordance wtih the European legislation

### **Notification system in place**

WAHIS

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

n/a

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

n/a

### **Additional information**

no



## D. Antimicrobial resistance in *Salmonella* in foodstuff derived from poultry

### **Sampling strategy used in monitoring**

#### **Frequency of the sampling**

In that sampling the ISO standard 18593 is used as a reference method.

#### **Type of specimen taken**

Samples are taken from processing areas and equipment used in food production, when such sampling is necessary for ensuring that the criteria are met

#### **Methods of sampling (description of sampling techniques)**

In that sampling the ISO standard 18593 is used as a reference method.

### **Laboratory used for detection for resistance**

#### **Antimicrobials included in monitoring**

Erithromycin

Ciprofolaxacin

tetracyclin

Streptomycin

Gentamycin

### **Preventive measures in place**

In accordance with the EU legislation

### **Control program/mechanisms**

#### **The control program/strategies in place**

no

#### **Recent actions taken to control the zoonoses**

in accordance with the legislation

#### **Suggestions to the Community for the actions to be taken**

no

### **Measures in case of the positive findings or single cases**

the measures are with regard to the Community legislation

### **Notification system in place**

WAHIS

### **Results of the investigation**

n/a

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

n/a

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

n/a

### **Additional information**

no

## E. Antimicrobial resistance in *Salmonella* in pigs

### **Sampling strategy used in monitoring**

#### **Frequency of the sampling**

Sampling has to be differentiated by slaughterhouses that participate in the survey and proportional to their capacity. The NVS should categorize all slaughterhouses according to their admission capacities for fattening pigs during the preceding year. Thus the meat establishments in which 80% of all fattening pigs are slaughtered are defined.

The total number of pigs and slaughtered animals from which samples will be taken in each slaughterhouse included in the survey is to be forecasted by multiplying the number of the samples (for example 2400) by the ratio of the processed fattening pigs from the preceding year. For example, if the slaughterhouse has processed 25% slaughtered pigs from the selected slaughterhouses those that represent at least 80% of all slaughtered fattening pigs in the Member State), then (2400 ÷ 0,25) means 600 pigs from samples should be taken. This number has to be distributed evenly so that 50% are examined each month for a period of 12 months.

When a slaughterhouse is out of operation however because a new establishment has been opened or a significant change in the admission capacities of the establishment is envisaged for the period of the survey, the forecasted capacity is to be adjusted accordingly.

#### **Type of specimen taken**

##### **General sampling**

â€œPacket of lymph nodes from the small intestines or at least five individual lymph nodes from the small intestines from all selected pigs. If possible, it is necessary to collect at least 25 g of lymph nodes free of fat and connective tissue.

â€œDocumentation shall be kept in the slaughterhouse for the date and time of each sampling, as well as date, time and name of the courier that has made the delivery.

##### **Details concerning sampling from lymph nodes from the small intestines**

It is necessary to rupture the mesentery between the blind gut and the part of the small intestines that is closest to the blind gut in such a manner that the lymph nodes from the small intestines show themselves in the ruptured and open area. Without usage of knife, only by fingers wrapped in a glove, the lymph nodes shall be taken directly from the mesentery thus opened, if individual lymph nodes are collected.

The lymph nodes or the pack of them shall be placed in nylon envelope marked with the date, time, identification number of the slaughterhouse and the identification number of the sample.

#### **Procedures for the selection of isolates for antimicrobial testing**

n/a

#### **Methods used for collecting data**

All isolated strains should be kept in the national reference laboratories of the both Member States because only they guarantee the integrity of the strains for minimal period of 5 years.

#### **Laboratory methodology used for identification of the microbial isolates**

In cases where the sensibility to antimicrobial substances (option), it is necessary to use established and controlled test method, such as the methods recommended by the National Committee for Clinical Laboratory Standards (NCCLS, and after 1 January 2005 popular under the name Clinical Laboratory Standards Institute â€œ CLSI).

The method of dilution in agar is accepted, as well as the broth dilution method. Results shall be reported as quantitative data (minimal suppressing concentrations) for the methods using solutions and diameter of the retaining zone for diffusion methods) and as qualitative data (proportionally resistant isolates).

The qualitative data should be based on interpretation against the epidemiological reduced values represented by the European Committee for Antimicrobial Substances Sensibility Testing (EUCAST) on Internet address: <http://www.eucast.org>.

**Laboratory used for detection for resistance**

**Antimicrobials included in monitoring**

- â€“Ampicillin or Amoxicillin,
- â€“Tetracycline,
- â€“Chloramphenicol,
- â€“Florfenicol,
- â€“Nalidixic acid,
- â€“Ciprofloxacin (preferred) or Enrofloxacin,
- â€“Sulphonamide (Sulfametoxazole preferred),
- â€“Sulphonamide/Trimethoprim or Trimethoprim,
- â€“Gentamicin,
- â€“Streptomycin,
- â€“Kanamycin (preferred) or Neomycin,
- â€“Third generation Cephalosporin, (Cefotaxime preferred),
- â€“Colistin (option).

**Cut-off values used in testing**

n/a

**Preventive measures in place**

in accordance with the EU legislation

**Control program/mechanisms**

**The control program/strategies in place**

in 2007 was implemented the baseline survey for slaughter pigs

**Recent actions taken to control the zoonoses**

in accordance with the EU legislation

**Suggestions to the Community for the actions to be taken**

no

**Measures in case of the positive findings or single cases**

in accordance with the EU legislation

**Notification system in place**

WAHIS

**Results of the investigation**

The results were reported to EU

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

n/a

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

n/a

**Additional information**

no

## F. Antimicrobial resistance in *Salmonella* in poultry

### **Sampling strategy used in monitoring**

#### **Frequency of the sampling**

##### **Sampling frame**

â€¢ within three weeks before the birds are moved to the slaughterhouse;

â€¢ sampling shall include each year at least one flock of broilers on 10 % of the holdings with more than 5 000 birds.

#### **Methods of sampling (description of sampling techniques)**

boot swabs

#### **Procedures for the selection of isolates for antimicrobial testing**

n/a

### **Laboratory used for detection for resistance**

#### **Antimicrobials included in monitoring**

Erythromycin

Ciprofloxacin

Tetracycline

Streptomycin

Gentamicin

### **Preventive measures in place**

The birds must be destroyed or may be used for human consumption if they are treated in a manner that guarantees the elimination of *Salmonella enteritidis* and *Salmonella typhimurium* in accordance with Community legislation on food hygiene.

### **Control program/mechanisms**

#### **The control program/strategies in place**

1. Antimicrobials shall not be used as a specific method to control *Salmonella* in poultry.

2. Antimicrobials may be used in the following exceptional circumstances:

â€¢ poultry presenting salmonella infection with clinical signs in a way likely to cause undue suffering to the animals;

â€¢ the infected flocks treated with antimicrobials shall still be considered infected with salmonella;

â€¢ authorisation given by the NVS on a case-by-case basis for purposes other than salmonella control in a flock suspect of salmonella infection, in particular following the epidemiological investigation of a food-borne outbreak or the detection of salmonella at the holding;

3. The use of antimicrobials shall be subject to supervision of and reporting to the NVS. This use shall be based wherever possible on the results of bacteriological sampling and of susceptibility testing.

### **Suggestions to the Community for the actions to be taken**

no

### **Measures in case of the positive findings or single cases**

#### **Control measures and notification of positive results**

In case of suspicion or conformation of *Salmonella enteritidis* or *Salmonella typhimurium* the NRL shall notify immediately the NVS.

In case of suspicion of infection the NVS and the relevant authorities:

- prohibited the movement of broilers
- take additional samples for conformation of infection

When the broilers are confirmed for the presence of *Salmonella enteritidis* or *Salmonella typhimurium*:

1. Fresh meat from broilers may be placed on the market on the condition that it meets the requirement of absence of *Salmonella* in 25 grams from the meat.
2. The requirement laid down in point 1 does not apply to fresh poultry meat destined for heat treatment or another treatment to eliminate salmonella in accordance with Community legislation on food hygiene.
3. The criterion laid down in point 1 does not apply to fresh poultry meat destined for industrial heat treatment or another treatment to eliminate salmonella in accordance with Community legislation on food hygiene.

## Results of the investigation

n/a

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

The samples taken and analysed for the purpose of control of salmonellosis in Republic of Bulgaria have been selected on the basis of risk analysis, the programmes being developed by the owners of industrial farms.

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

n/a

## Additional information

no

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

Test Method Used		Standard methods used for testing		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	
Tetracyclines	Tetracycline		8	
Fluoroquinolones	Ciprofloxacin		0.06	
Quinolones	Nalidixic acid		16	
Trimethoprim	Trimethoprim		2	
Sulphonamides	Sulphonamides		256	
Aminoglycosides	Streptomycin		32	
	Gentamicin		2	
Cephalosporins	Cefotaxim		0.5	
Penicillins	Ampicillin		4	

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

Test Method Used		Standard methods used for testing		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	
Tetracyclines	Tetracycline		8	
Fluoroquinolones	Ciprofloxacin		0.06	
Quinolones	Nalidixic acid		16	
Trimethoprim	Trimethoprim		2	
Sulphonamides	Sulphonamides		256	
Aminoglycosides	Streptomycin		32	
	Gentamicin		2	
Cephalosporins	Cefotaxim		0.5	
Penicillins	Ampicillin		4	

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

Test Method Used		Standard methods used for testing		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			Resistant >	Resistant <=
Amphenicols	Chloramphenicol		16	
Tetracyclines	Tetracycline		8	
Fluoroquinolones	Ciprofloxacin		0.06	
Quinolones	Nalidixic acid		16	
Trimethoprim	Trimethoprim		2	
Sulphonamides	Sulphonamides		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

Bulgaria not tested for Campylobacter

## 2.2.2 Campylobacteriosis in humans

### A. Thermophilic Campylobacter in humans

Reporting system in place for the human cases

A competent authority is a Ministry of health.

## 2.2.3 Campylobacter in foodstuffs

### A. Thermophilic Campylobacter in Broiler meat and products thereof

#### Monitoring system

##### Sampling strategy

At slaughterhouse and cutting plant

Bulgaria not tested for Campylobacter

## 2.2.4 Campylobacter in animals

### A. Thermophilic Campylobacter in *Gallus gallus*

Monitoring system

Sampling strategy

Bulgaria not tested for Campylobacter

Table Campylobacter in animals

Source of information	Sampling unit	Units tested	Total units positive for Campylobacter	C. coli	C. jejuni	C. lari	C. upsaliensis	Thermophilic Campylobacter spp., unspecified
Cattle (bovine animals) - dairy cows	Animal	235	0					

## 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

no data available

**B. Antimicrobial resistance in *Campylobacter jejuni* and *coli* in foodstuff derived from cattle**

Sampling strategy used in monitoring

Frequency of the sampling

no data available

C. Antimicrobial resistance in *Campylobacter jejuni* and *coli* in foodstuff derived from pigs

Sampling strategy used in monitoring

Frequency of the sampling

no data available

D. Antimicrobial resistance in *Campylobacter jejuni* and *coli* in foodstuff derived from poultry

Sampling strategy used in monitoring

Frequency of the sampling

no data available

## E. Antimicrobial resistance in *Campylobacter jejuni* and *coli* in pigs

### Sampling strategy used in monitoring

Frequency of the sampling

no data available

**F. Antimicrobial resistance in *Campylobacter jejuni* and *coli* in poultry**

**Sampling strategy used in monitoring**

Frequency of the sampling

no data available

Table Cut-off values used for antimicrobial susceptibility testing of *C. coli* in Animals

Test Method Used		Standard methods used for testing		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Macrolides	Erythromycin		16	

Table Cut-off values used for antimicrobial susceptibility testing of *C. coli* in Feed

Test Method Used		Standard methods used for testing		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Macrolides	Erythromycin		16	

Table Cut-off values used for antimicrobial susceptibility testing of *C. coli* in Food

Test Method Used		Standard methods used for testing		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	
Fluoroquinolones	Ciprofloxacin		1	
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Macrolides	Erythromycin		16	

Table Cut-off values used for antimicrobial susceptibility testing of *C. jejuni* in Animals

Test Method Used		Standard methods used for testing		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			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 *C. jejuni* in Feed

Test Method Used		Standard methods used for testing		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			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 *C. jejuni* in Food

Test Method Used		Standard methods used for testing		
		Standard	Concentration (microg/ml)	Zone diameter (mm)
			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

Last case 2004 - 23 sheep in Bourgas region

Recent actions taken to control the zoonoses

Annual vaccination in period Oct.-Feb. for all sheep in affected settlements

Suggestions to the Community for the actions to be taken

not yet

Additional information

no

## 2.3.2 Listeriosis in humans

### A. Listeriosis in humans

Reporting system in place for the human cases

No data available.

Case definition

No data available.

Diagnostic/analytical methods used

No data available.

Notification system in place

No data available.

History of the disease and/or infection in the country

No data available.

Results of the investigation

No data available.

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

No data available.

Relevance as zoonotic disease

No data available.

Additional information

no

### 2.3.3 Listeria in foodstuffs

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail		Batch	25g	5234	0	1289	0	3945	0	0
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk - at retail		Batch	25g	620	0	123	0	497	0	
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail		Batch	25g	2254	0	398	0	1856	0	0
Cheeses made from cows' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail		Batch	25g	453	0	101	0	352	0	0
Cheeses made from goats' milk - hard - made from pasteurised milk - at retail		Batch	25g	50	0	12	0	38	0	0
Cheeses made from goats' milk - hard - made from raw or low heat-treated milk - at retail		Batch	25g	45	0	9	0	36	0	0
Cheeses made from goats' milk - soft and semi-soft - made from pasteurised milk - at retail		Batch	25g	255	0	34	0	221	0	0
Cheeses made from goats' milk - soft and semi-soft - made from raw or low heat-treated milk - at retail		Batch	25g	22	0	5	0	17	0	0
Cheeses made from sheep's milk - hard - made from pasteurised milk - at retail		Batch	25g	1803	0	235	0	1568	0	0
Cheeses made from sheep's milk - hard - made from raw or low heat-treated milk - at retail		Batch	25g	93	0	18	0	75	0	0

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in 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 pasteurised milk - at retail		Batch	25g	357	0	65	0	292	0	0
Cheeses made from sheep's milk - soft and semi-soft - made from raw or low heat-treated milk - at retail		Batch	25g	30	0	7	0	23	0	0
Dairy products (excluding cheeses) - butter - at retail		Batch	25g	387	0	79	0	308	0	0
Dairy products (excluding cheeses) - cream - at retail		Batch	25	54	0	12	0	42	0	0
Milk, cows'		Batch		179	0	34	0	145	0	0
Milk, cows' - pasteurised milk - at retail		Batch	25ml	2560	0	245	0	2315	0	0

Table Listeria monocytogenes in other foods

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Fish - smoked - at retail		Batch	25g	296	0	39	0	257	0	0
Meat from bovine animals - fresh		Batch	25g	356	0	54	0	302	0	0
Meat from bovine animals - meat products - cooked, ready-to-eat - at retail		Batch	25g	116	0	23	0	93	0	0
Meat from broilers (Gallus gallus) - fresh		Batch	25g	834	0	112	0	722	0	0
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail		Batch	25g	399	0	89	0	310	0	0
Meat from pig - fresh		Batch	25g	1041	0	211	0	830	0	0
Meat from pig - meat products - cooked, ready-to-eat - at retail		Batch	25g	782	0	231	0	551	0	0
Molluscan shellfish - cooked - at retail		Batch	25g	5	0	1	0	4	0	0

## 2.3.4 Listeria in animals

Table Listeria in animals

	Source of information	Sampling unit	Units tested	Total units positive for Listeria	<i>L. monocytogenes</i>	Listeria spp., unspecified
Cattle (bovine animals)		Animal	10	0		
Cattle (bovine animals) - dairy cows		Animal	7	0		
Gallus gallus (fowl)		Animal	55	0		
Goats		Animal	32	0		
Pigs		Animal	45	0		
Sheep		Animal	22	0		
Turkeys		Animal	3	0		

## 2.4 E. COLI INFECTIONS

### 2.4.1 General evaluation of the national situation

### 2.4.2 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
Meat from bovine animals		Batch		46	0			
Meat from bovine animals - fresh - at retail		Batch		82	0			
Meat from bovine animals - minced meat - intended to be eaten raw - at retail		Batch		346	0			
Meat from broilers (Gallus gallus)		Batch		123	0			
Meat from broilers (Gallus gallus) - fresh		Batch		1792	0			
Meat from pig		Batch		72	0			
Meat from pig - fresh		Batch		264	0			
Meat from pig - minced meat - intended to be eaten raw		Batch		1044	5			5
Meat from sheep		Batch		44	0			
Meat from sheep - fresh - at retail		Batch		80	0			
Milk, cows' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products		Batch		810	0			

Table VT E. coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Milk, goats' - raw milk for manufacture - intended for manufacture of raw or low heat-treated products		Batch		85	0			

## 2.4.3 Escherichia coli, pathogenic in animals

Table VT E. coli in animals

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Cattle (bovine animals)		Animal		8	1			1
Cattle (bovine animals) - calves (under 1 year)		Animal		7	0			
Cattle (bovine animals) - dairy cows - at farm		Animal		9	1	1		
Goats - at farm		Animal		7	0			
Pigs		Animal		8	0			
Poultry, unspecified		Animal		5	0			
Sheep - at farm		Animal		6	0			
Solipeds, domestic		Animal		1	0			

## 2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

### 2.5.1 General evaluation of the national situation

#### 2.5.2 Mycobacterium in animals

##### A. Mycobacterium bovis in bovine animals

Status as officially free of bovine tuberculosis during the reporting year

The entire country free

Bulgaria still is not recognised as an officially free from tuberculosis country.

Free regions

no

Additional information

In 2000 5 new outbreaks of bovine tuberculosis were registered - 3 in Dobrich Region, 1 in Kardjali and 1 in Siliстра.

In 2001 no new infections with bovine tuberculosis were found.

In 2002 2 outbreaks of bovine tuberculosis were found, 1 in Kardjali Region and 1 in Velko Tarnovo Region.

In 2003 no outbreak of bovine tuberculosis were registered.

In 2004 only one outbreak of bovine tuberculosis was found in Pazardjik Region.

In 2005 only one outbreak was found in the village of Lenovo, Plovdiv Region.

In 2006 there was no outbreak of bovine tuberculosis.

In 2007 there was no outbreak of bovine tuberculosis.

Monitoring system

Sampling strategy

Until 2004 the bovine herds were examined for bovine tuberculosis twice a year. Since the beginning of 2005 subject to annual testing have been all bovine animals over 42 days of age, during spring, and during autumn - only the newborn calves over 42-days age, in accordance with the requirements of Annex B to Directive 97/12.

Description of the submitted programme:

- Testing of bovines in animal holdings over 42 days of age;
- Differential tuberculization 42 days later of all suspect and positive animals using bovine or poultry tuberculin;
- Examination after 69 days with double dose of tuberculin (0,2 ml);
- Detailed epizootic survey;
- Slaughter of positive bovines;
- Payment of compensations to the owners of compulsory slaughtered animals;
- Placing on the market of the products obtained from the slaughtered animals.

Frequency of the sampling

every time of slaughter of positive bovines.

**Methods of sampling (description of sampling techniques)**

lymph nodes in affected area

**Case definition**

In 2007 there was no outbreak of bovine tuberculosis.

**Diagnostic/analytical methods used**

the laboratory examination for bovine tuberculosis shall be carried out in the Diagnostics Reference Laboratory for Tuberculosis at the National Research Veterinary Institute (NRVI), Sofia

**Vaccination policy**

no - intradermal examinations with bovine tuberculin (tuberculization)

**Other preventive measures than vaccination in place**

differential examination (with bovine and poultry tuberculin) and examinations with double dose of tuberculin (0,2 ml)

**Control program/mechanisms**

The control program/strategies in place

have control program in place

**Recent actions taken to control the zoonoses**

- Testing of bovines in animal holdings over 42 days of age;
- Differential tuberculization 42 days later of all suspect and positive animals using bovine or poultry tuberculin;
- Examination after 69 days with double dose of tuberculin (0,2 ml);
- Detailed epizootic survey;
- Slaughter of positive bovines;
- Payment of compensations to the owners of compulsory slaughtered animals;
- Placing on the market of the products obtained from the slaughtered animals

**Suggestions to the Community for the actions to be taken**

no

**Measures in case of the positive findings or single cases**

- Detailed epizootic survey;
- Slaughter of positive bovines;
- Payment of compensations to the owners of compulsory slaughtered animals;
- Placing on the market of the products obtained from the slaughtered animals

**Notification system in place**

WAHIS

**Results of the investigation**

In 2007 there was no outbreak of bovine tuberculosis

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

Bulgaria would like to become a status as a tuberculosis free country

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

no data available

**Additional information**

no

## B. Mycobacterium bovis in farmed deer

### Monitoring system

#### Sampling strategy

BG haven't monitoring strategy for farmed deers

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

If present, the row "Total -1" refers to analogous data of the previous year.

Region	Total number of existing bovine		Officially free herds		Infected herds		Routine tuberculin testing		Number of tuberculin tests carried out before the introduction into the herds (Annex A(I)(2)(c) third indent (1) of Directive 64/432/EEC)	Number of animals with suspicious lesions of tuberculosis examined and submitted to histopathological and bacteriological	Number of animals detected positive in bacteriological examination
	Herds	Animals	Number of herds	%	Number of herds	%	Interval between routine tuberculin tests	Number of animals tested			
България	129454	1164920	0	0	0	0	once a year	116989		3	
Total : 1)	129454	1164920	0	0	0	0	N.A.	116989	0	3	0

Comments:

1) N.A.

## 2.6 BRUCELLOSIS

### 2.6.1 General evaluation of the national situation

#### A. Brucellosis general evaluation

##### History of the disease and/or infection in the country

The Republic of Bulgaria has been free of the Bovine Brucellosis since 1958.

From the date of eradication of the disease till 1998 subject to mandatory annual testing were all bovine animals over 12 months of age. In 1998 the surveillance scheme for Bovine Brucellosis was changed to cover the testing of 100% of the animals reared in the border municipalities along the borders with the Republic of Turkey, the Republic of Greece, Macedonia (FYROM) and the Republic of Serbia, 50% of the bovine animals reared in the regions bordering the abovementioned countries and 25% of the bovine animals reared in the regions inside the country.

For the other municipalities of the country the testing for brucellosis is carried out in accordance with Annex A, Chapter I, paragraph B. Maintenance of the status of Council Directive 91/68.

In 2003 and 2004 100% of the bovine animals over 12 months of age were tested for Bovine Brucellosis as the Republic of Bulgaria was in process of EU accession.

In 2005 all bovine animals over 24 months of age were tested pursuant to the requirements of Annex A, Section II, Subparagraph 8 of Directive 1997/12 aimed at maintaining the status of a region officially free of bovine brucellosis (*Brucella abortus*).

In 2007 all bovine animals over 12 months of age are subject to testing.

Since 1958 all test results for *Brucella abortus* have been negative. The animals tested in the last 7 years they are as follows:

2000 â€“ 157 427 bovine animals;  
2001 â€“ 126 836 bovine animals;  
2002 â€“ 126 633 bovine animals;  
2003 â€“ 359 770 bovine animals;  
2004 â€“ 339 657 bovine animals;  
2005 - 327 311 bovine animals;  
2006 â€“ 357 809 bovine animals;

Since 2005 the abortions of bovine animals are subject to mandatory notification and testing pursuant to the requirements of Directive 64/432/Ð•Ð¡, whereas the cows that have had an abortion are tested serologically immediately after the abortion and a second time 15 days after that. For 2005 the number of the cows that had had an abortion was 92 bovine animals, for 2006 â€“ 96 bovine animals whereas all of them have had negative results for the presence of *Brucella abortus*.

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

Contact between Bulgarian ruminants and ruminants from neighboring countries

Illegal import of ruminants from neighboring countries to Bulgaria

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

n/a

Recent actions taken to control the zoonoses

No

Suggestions to the Community for the actions to be taken

No

Additional information

no

## 2.6.2 Brucella in animals

### A. Brucella abortus in bovine animals

Status as officially free of bovine brucellosis during the reporting year

The entire country free

Bulgaria is not recognized as officially free of bovine brucellosis during 2008

Free regions

Bulgaria is not recognized as officially free of bovine brucellosis during 2008

Additional information

no

Monitoring system

Sampling strategy

In Bulgaria the samling strategy is an individual testing of 100% of the bovine animals over 12 months of age.

Frequency of the sampling

The frequency of testing is according to:

- the salughtering of all bovine animals over 12 months of age and -Slaughtering of the animals that have shown a positive reaction for enzootic bovine leucosis.
- testing twice of all animals with slipping- after the slipping and 15- 20 days after that.
- twice serological sampling of male animals
- serological sampling of all imported from third countries animals.

Case definition

The reporting of positive cases is through WAHIS system

Diagnostic/analytical methods used

rose bengal, SAT, Complement fixation test and ELISA

Vaccination policy

No vaccination is carried out

Other preventive measures than vaccination in place

No

Control program/mechanisms

The control program/strategies in place

In the year 2008 the PROGRAM will be implemented by the National Veterinary Service of the Republic of Bulgaria for Bovine Brucellosis diagnostics aimed at maintaining the status of a country officially free from Bovine Brucellosis

Recent actions taken to control the zoonoses

All positive animals are stamp out. After kiling of animals, premises are disinfected. All killed animals are destracted in the randering plants.

Suggestions to the Community for the actions to be taken

NO

Notification system in place

WAHIS

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

The presumed source of infection is illegal trade of large rumminance between BG and Greece.

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

No data available

Additional information

No

## B. Brucella melitensis in goats

### **Status as officially free of caprine brucellosis during the reporting year**

The entire country free

The Republic of Bulgaria is not recognized as officially free country

Free regions

n/a

### **Monitoring system**

Sampling strategy

With regard to the State Prophylaxis Programme all small and large ruminants, and equines bred on the territory of the border municipalities next to Republic of Turkey, Republic of Greece, Former Yugoslav Republic of Macedonia and Republic of Serbia have to be tested for Brucellosis once a year.

For the other municipalities of the country the testing for brucellosis is carried out in accordance with Annex A, Chapter I, paragraph B. Maintenance of the status of Council Directive 91/68.

### **Methods of sampling (description of sampling techniques)**

Blood samples; foetus and placenta

### **Case definition**

Outbreak of brucella melitensis in the the village of Valchio pole, municipality of Lubimets, administrative district of Haskovo

Date of confirmation – 20.08.2007

Affected 22 small ruminants kept in 11 backyards of private subsistence farmer living in that village.

In the village of Valche pole there are totally 648 small ruminants (263 goats, 8 billy- goats, 365 sheep and 12 rams), 43 large ruminants and 92 equidae.

All large ruminants and equines gave negative results for brucellosis.

### **Diagnostic/analytical methods used**

ELISA, Rose bengal test, CFT

### **Vaccination policy**

Not implemented

### **Other preventive measures than vaccination in place**

n/a

### **Control program/mechanisms**

The control program/strategies in place

National Veterinary Service has taken all the measures in accordance with the Council Directive 91/68/D-9; namely:

ban of movement of the small, large ruminants and equidae to and out of the village Valche pole;

Counting of all susceptible animals in the village;

Serological testing of all susceptible animals;

ban of movement of milk, dairy products, feeding staff and etc;

the isolation of all positive animals and their destruction after the Laboratory conformation;

Information to the public of all risks, with regard to the disease and the measures which have to be taken of the prevention.

On 21.08.2007, 129 small ruminants and 1 dog kept in the affected 11 backyards were killed and send to the rendering plant Varna, town of Varna.

#### Suggestions to the Community for the actions to be taken

no

#### Measures in case of the positive findings or single cases

After the case of Brucellosis in village of Valche pole a team of experts from NVS in Sofia made large epidemiological investigation.

This investigation showed us that in town of Harmanli in 2005 were collected stolen goats from border regions of Greece.

Those goats were collected in non-registered farm and for this reason they were not tested for Brucellosis under the National Prophylaxis Program for 2005 and 2006.

On 11.09.2007 after total serological sample taken of whole population of small ruminants we found 43 positive animals in town of Harmanli.

#### Notification system in place

WAHIS

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

Contact between Bulgarian ruminants and ruminants from neighboring countries

Illegal import of ruminants from neighboring countries to Bulgaria

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

n/a

#### Additional information

no

## C. Brucella melitensis in sheep

### **Status as officially free of ovine brucellosis during the reporting year**

**The entire country free**

The Republic of Bulgaria is not recognized as officially free of ovine brucellosis during the 2008.

**Free regions**

-

### **Monitoring system**

**Sampling strategy**

female ovine and caprine animals in breeding age and non-castrated male animals more than 6 months old

**Frequency of the sampling**

Taking samples of:

- all female animals near the borders with Greece and Turkey
- 25 % of all female animals in each herd
- in herds with less than 50 female animals the samples are taken of each female animal
- all male animals of age more than 6 months.
- serological testing of all slipping animals- after the slipping and 15 days after that
- serological testing of all animals imported from third countries due to quarantine period

**Methods of sampling (description of sampling techniques)**

Blood samples for serological testing

**Diagnostic/analytical methods used**

rose bengal, SAT and Complement fixation test

**Vaccination policy**

No vaccination in Bulgaria

**Other preventive measures than vaccination in place**

no

**Control program/mechanisms**

**The control program/strategies in place**

in the year 2008 is implemented the PROGRAM by the National Veterinary Service of the Republic of Bulgaria for Ovine Brucellosis diagnostics aimed at maintaining the status of a country officially free of Ovine Brucellosis

**Suggestions to the Community for the actions to be taken**

No

**Notification system in place**

WAHIS

**Additional information**

the information is given in the previous table



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
Pigs		Animal	96123	0				

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

If present, the row "Total -1" refers to analogous data of the previous year.

Region	Total number of existing		Officially free herds		Infected herds		Surveillance			Investigations of suspect cases				
	Herds	Animals	Number of herds	%	Number of herds	%	Number of herds tested	Number of animals tested	Number of infected herds	Number of animals tested with serological blood tests	Number of animals positive serologically	Number of animals examined microbiologically	Number of animals positive microbiologically	Number of suspended herds
България	240248	3504031	0	0	0	0	27890	405098	0	145012	0	0	0	0
Total :	<sup>1)</sup> 240248	3504031	0	0	0	0	27890	405098	0	145012	0	0	0	0

## Comments:

<sup>1)</sup> N.A.

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

If present, the row "Total -1" refers to analogous data of the previous year.

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance					Investigations of suspect cases									
	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	Sero logically	BST	Number of animals examined microbiologically
България	129454	1164920	0	0	0	0	32674	201451								35478					
Total :	<sup>1)</sup> 129454	1164920	0	0	0	0	32674	201451	0	0	0	0	0	0	0	35478	0	0	0	0	0

Comments:

<sup>1)</sup> N.A.

Table Ovine or Caprine brucellosis - data on status of herds at the end of the period - Community co-financed eradication programmes

If present, the row "Total -1" refers to analogous data of the previous year.

Region	Status of herds and animals under the programme													
	Total number of herds and animals under the programme	Unknown		Not free or not officially free				Free or officially free suspended		Free		Officially free		
				Last check positive		Last check negative								
Region	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals
Total - 1	129454													

## Comments:

<sup>1)</sup> 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

no data available

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

no data available

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

no data available

Recent actions taken to control the zoonoses

no data available

Suggestions to the Community for the actions to be taken

no

Additional information

no

## 2.7.2 Yersiniosis in humans

### A. Yersiniosis in humans

Reporting system in place for the human cases

no data available

Case definition

no data available

Diagnostic/analytical methods used

no data available

Notification system in place

no data available

History of the disease and/or infection in the country

no data available

Results of the investigation

no data available

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

no data available

Relevance as zoonotic disease

no data available

Additional information

no

## 2.7.3 Yersinia in animals

### A. Yersinia enterocolitica in pigs

#### Monitoring system

##### Sampling strategy

Animals at farm

no monitoring system in place

Animals at slaughter (herd based approach)

no monitoring system in place

#### Methods of sampling (description of sampling techniques)

Animals at farm

no monitoring system in place

Animals at slaughter (herd based approach)

no monitoring system in place

#### Case definition

Animals at farm

no monitoring system in place

Animals at slaughter (herd based approach)

no monitoring system in place

#### Vaccination policy

no vaccination policy in place

#### Other preventive measures than vaccination in place

no preventive measures in place

#### Control program/mechanisms

##### The control program/strategies in place

no control program in place

#### Recent actions taken to control the zoonoses

no

#### Suggestions to the Community for the actions to be taken

not yet

#### Measures in case of the positive findings or single cases

no positive cases

#### Notification system in place

no

#### Results of the investigation

no investigation

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

no control program on place

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

no data available

Additional information

no

## 2.8 TRICHINELLOSIS

### 2.8.1 General evaluation of the national situation

#### A. Trichinellosis general evaluation

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

mandatory testing for all slaughtered pigs and aquine;  
mandatory testing for all hunted boars (wild pigs), bears and badger.

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

no data available.

Recent actions taken to control the zoonoses

mandatory testing for all slaughtered pigs and aquine;  
mandatory testing for all hunted boars (wild pigs), bears and badger.

Suggestions to the Community for the actions to be taken

no

Additional information

no

## 2.8.2 Trichinellosis in humans

### A. Trichinellosis in humans

Reporting system in place for the human cases

no data available

Case definition

no data available

Diagnostic/analytical methods used

no data available

Notification system in place

no data available

History of the disease and/or infection in the country

no data available

Results of the investigation

no data available

Description of the positive cases detected during the reporting year

no data available

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

no data available

Relevance as zoonotic disease

no data available

Additional information

no

## 2.8.3 Trichinella in animals

### A. Trichinella in horses

Monitoring system

Sampling strategy

mandatory testing for all slaughtered equine;

Frequency of the sampling

depends of slaughtering

Type of specimen taken

masseters, musculus intracostalis

Methods of sampling (description of sampling techniques)

destructive and compression method

Case definition

not defined

Diagnostic/analytical methods used

only postmortem investigation

Results of the investigation including the origin of the positive animals

no positive animals

Control program/mechanisms

The control program/strategies in place

no control program in place

Recent actions taken to control the zoonoses

no control program in place

Suggestions to the Community for the actions to be taken

no

Measures in case of the positive findings or single cases

carcass destruction in rendering plant, disinfection and deratination in place of origin.

Notification system in place

WAHIS

Monitoring system

Sampling strategy

For categories of holdings officially recognised Trichinella-free

no control program in place

Bulgaria is not recognised like Trichinella-free country

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

no control program in place

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

no data available

**Additional information**

no

## B. Trichinella in pigs

Number of officially recognised Trichinella-free holdings

0

Categories of holdings officially recognised Trichinella-free

0

Officially recognised regions with negligible Trichinella risk

0

Monitoring system

Sampling strategy

General

testing of all slaughtered domestic and East- Balkan pigs;  
testing of all hunted wild pigs

For Trichinella free holdings

no monitoring system

For categories of holdings officially recognised Trichinella-free

no monitoring system

For regions with negligible Trichinella risk

no monitoring system

Frequency of the sampling

General

no monitoring system

For Trichinella free holdings

no monitoring system

For categories of holdings officially recognised Trichinella-free

no monitoring system

For regions with negligible Trichinella risk

no monitoring system

Type of specimen taken

General

diafragm muscle

For Trichinella free holdings

diafragm muscle

For categories of holdings officially recognised Trichinella-free

diafragm muscle

For regions with negligible Trichinella risk

diafragm muscle

**Methods of sampling (description of sampling techniques)**

General

compression method,  
destructive method

For Trichinella free holdings

no monitoring system

compression method,  
destructive method

For categories of holdings officially recognised Trichinella-free

no monitoring system

compression method,  
destructive method

For regions with negligible Trichinella risk

no monitoring system

compression method,  
destructive method

**Case definition**

General

no monitoring system

For Trichinella free holdings

no monitoring system

For categories of holdings officially recognised Trichinella-free

no monitoring system

For regions with negligible Trichinella risk

no monitoring system

**Diagnostic/analytical methods used**

General

no monitoring system

compression method,  
destructive method

For Trichinella free holdings

no monitoring system

compression method,  
destructive method

For categories of holdings officially recognised Trichinella-free

no monitoring system

compression method,  
destructive method

For regions with negligible Trichinella risk

no monitoring system

compression method,  
destructive method

Preventive measures in place

no

Control program/mechanisms

The control program/strategies in place

no

Summary results of the inspections of Trichinella-free holdings including information on farmer compliance

no control program

Recent actions taken to control the zoonoses

no control program

Suggestions to the Community for the actions to be taken

no

Measures in case of the positive findings or single cases

destruction of carcases in rendering plants, deratisations

The contingency plan in place

no

Notification system in place

WAHIS

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

Fattening pigs raised under controlled housing conditions in integrated production system

We not found Trichinella in Bulgaria in those kind of farms.

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

We found only Trichinella spiralis in Bulgaria in those kind of farms.

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

no data available

**Additional information**

no

**Table Trichinella in animals**

	Source of information	Sampling unit	Units tested	Total units positive for Trichinella	T. spiralis	Trichinella spp., unspecified
Pigs - breeding animals - unspecified - sows and boars		Animal	6734	0		
Pigs - fattening pigs - not raised under controlled housing conditions		Animal	1020	3	3	
Pigs - fattening pigs - raised under controlled housing conditions		Animal	328908	0		
Solipeds, domestic - horses		Animal	5321	1	1	
Wild boars - farmed		Animal	82	0		
Wild boars - wild		Animal	6978	17	17	

## 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

Investigation for this disease start after 1950. Until 1995, human case of Echinococcus decrease. From 1996 start again increasing of cases.

Echinococcus have in whole country, but highly affected are the next regions:  
for bovine - Sofia - 37%, Bourgas - 31.6%, Haskovo - 28%;  
for sheep - Vratza - 29%, Pernik - 24%, Sliven - 23%, Varna - 32%.

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

Echinococcus is big problem for Bulgaria.

Analysis of the situation after 2000 in inspected carcases in slaughter houses shows increasing of cases:  
bovine - from 9.17% to 17.91%;  
sheep - from 5.17% to 7.5%;  
swine - from 0.8% to 2.19%.

carrier:

sheep dogs - 78%, strey dogs - 57%, home dogs - 31%, hunter dogs - 16%

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

Main reasons for big number of human cases are:

1. Partial registration of home dogs and not full dehelmentisation;
2. Many strey dogs, on practise - without dehelmentisation;
3. Not all infected viscera is destroyed in rendering plants.

##### Recent actions taken to control the zoonoses

we have national program for control of Echinococcus in humans and animals between 2004 and 2008.

##### Suggestions to the Community for the actions to be taken

no

##### Additional information

no

## 2.9.2 Echinococcus in animals

Table Echinococcus in animals

	Source of information	Sampling unit	Region	Units tested	Total units positive for Echinococcus	E. granulosus	E. multilocularis	Echinococcus spp., unspecified
Cattle (bovine animals)		Animal	България	41345	1789	1789		
Dogs		Animal	България	112	0			
Goats		Animal	България	43789	390	390		
Pigs		Animal	България	532156	512	512		
Reindeers		Animal	България	265	0			
Sheep		Animal	България	599098	38123	38123		

## 2.10 TOXOPLASMOSIS

### 2.10.1 General evaluation of the national situation

### 2.10.2 Toxoplasma in animals

Table Toxoplasma in animals

	Source of information	Sampling unit	Units tested	Total units positive for Toxoplasma	T. gondii
Cats		Animal	20	0	

## 2.11 RABIES

### 2.11.1 General evaluation of the national situation

#### A. Rabies general evaluation

##### History of the disease and/or infection in the country

In our country rabies disease has been spreading mainly in North Bulgaria. The total number of cases confirmed in Bulgaria since the beginning of 1988 up to the end of 2005 is 507, of which 484 cases (95.5%) are in North Bulgaria (to the north of Stara Planina mountain chain that divides the country into two) and only 23 (4.5%) are the cases identified in South Bulgaria, not a single case of rabies being identified in South Bulgaria during all the previous 8 years (see Table 1 in the Annex).

Wild predatory animals are the reservoir of rabies virus in our country, and these are mainly foxes and of less rates jackals. Of all the 529 animals found sick of rabies within the time-period 1988 – 2005, 262 are wild animals (49.5%), 229 (87.4%) of which being foxes (Table 2).

TABLE 2. Types and numbers of rabies diseased animals (1988 – 2005)

Year	Total	Domestic Animals /livestock/	Dogs	Cats	Foxes	Jackals	Other species
1988	843	93	42	--			
1989	783	82	37	1			
1990	351	16	18	--			
1991	2093	7	1				
1992	2316	--	7	--			
1993	42244	12	2	--			
1994	1410	--	4	--			
1995	1246	2	--				
1996	30103	215	--				
1997	1615	82	-				
1998	941121	-					
1999	25113	11	--				
2000	23114	143	-				
2001	62774	3842	-				
2002	16	--	3112	-			
2003	1732	10	2				
2004	115	14	1				
2005	122125	11					
		529	20550	11229	1222		

Highest is the number of rabies cases registered in spring and less are the cases registered in autumn-winter seasons, those identified in summer being the lowest (Table 3). This is due to ecological and biological specifics of the fox populations in our country. The spring pick of the disease is related to the reproduction period of foxes, while the autumn-winter rising trend is due to seeking and demand of living area manifested by young foxes.

TABLE 3

MonthI II III IV V VI VII VIII IX X XI XII  
 Rabies cases 17 20 16 34 15 17 10 14 10 13 19 14

The reason for the definitely predominant spread of rabies in North Bulgaria should be linked with geographic specifics of the country. North Bulgaria is separated from the Southern parts of the country through a natural geographic barrier, i.e. the Balkans Chain (Stara Planina mountain chain) and it acts as a natural barrier for the spread of rabies from north to south. Alongside the whole southern border line of Bulgaria with Turkey and Greece there is still an existing border-fencing facility (netted fence), which plays the role of a barrier preventing the passage of animals. The eastern areas of the country are also bordered by a natural geographic barrier, the Black Sea. To the north Bulgaria borders with Rumania through another natural water frontier, the river Danube, but there is also a land border of 130 km length that could enable passage of animals. To the west, Bulgaria's land borders with Yugoslavia and Macedonia are predominantly of mountainous relief, but there are some areas of plane relief (Northwest Bulgaria).

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

As until now, there is not any individual administrative district (county) in North Bulgaria, where there has not been any rabies case confirmed. Observations show that each year there are rabies cases identified in an average of 6 to 7 of the total of 14 administrative districts of North Bulgaria.

Of the total of 529 animals found sick within the aforementioned time-period (1988-2005), 205 (38.7%) are livestock animals (cows, sheep, goats and horses). This high sickness rate among these type of animals is due to specifics of their keeping, since they spend substantial time grazing on pastures where the likelihood of contacts with wild animals is much higher (see Table 2).

The species and numbers of wild predatory animals in North Bulgaria are given in Table 4.

TABLE 4. Species and Numbers of Wild Predatory Animals in North Bulgaria

Animal Species	Wolves	Jackals	Foxes	Stray Dogs
Numbers	90213	45017	72310	427

For the period 01.01 - 07.12.2006 in Bulgaria were found 9 outbreaks of rabies on the territory of 5 regions (table 5, figure 1)

RVS:198819891990199119921993199419951996199719981999200020012002200320042005

Blagoevgrad-----

Burgas11---1-----

Varna-----3---

Vidin-177-121-211-81821

Vratsa148414572-114511211-

Veliko Tarnovo73---11-2-11-3-422

Gabrovo33---2-----

Dobrich----11146--14--43

Kyustendil-----

Kardzhali-----

Lovech10189--7221--1-122--

Montana341311-9111-2-1214---3  
Pazardzhik-----  
Pernik---1--1-----  
Pleven66-35-23411216173-1-  
Plovdiv5-----1-----  
Razgrad1-2--3-23---1---  
Ruse-31---111-----  
Silistra11---11-2--1---2  
Sliven-2-----  
Smolyan-----  
Sofia-town-----  
Sofia-district1-132-----  
Stara Zagora-----1-----  
Targovishte13---7-1241--1242--  
Haskovo---1---1-----  
Shumen-----3373---  
Yambol-----  
TOTAL:84783520234214122316914236115171011

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

n/a

Suggestions to the Community for the actions to be taken

not yet

Additional information

no

## 2.11.2 Lyssavirus (rabies) in animals

### A. Rabies in dogs

#### Monitoring system

##### Sampling strategy

Samples shall be taken of all suspected, shown clinical signs and found dead dogs.

##### Frequency of the sampling

In any case of suspected, shown clinical signs and found dead dogs.

##### Methods of sampling (description of sampling techniques)

Laboratory control will be effected in the National Diagnostic and Research Veterinary Medical Institute (NDRVMI) in Sofia. The following is the method to be used for exercising this control:

IFT-test - direct immune-fluorescent test for detecting the presence of the rabies virus.

#### Case definition

Sick from Rabies animals are: animals, shown clinical signs for Rabies and the diagnose is confirmed from the laboratory.

#### Vaccination policy

All dogs in Bulgaria shall be vaccinated each year.

After lab confirmation of any case in animals, all dogs, cats and pastured animals in affected settlement should be vaccinated again.

#### Other preventive measures than vaccination in place

All dogs should be tied and could not leave alone yards.

#### Control program/mechanisms

##### The control program/strategies in place

Each year the minister of agriculture and food suply shall approve STATE PROFILAXIS PROGRAME, where is included all rabies control measures.

##### Recent actions taken to control the zoonoses

The information is included in previous pages.

#### Suggestions to the Community for the actions to be taken

not yet

#### Measures in case of the positive findings or single cases

After lab confirmation of any positive case in animals, all dogs, cats and pastured animals in affected settlement should be vaccinated again.

#### Notification system in place

All positive cases have been notified through a WAHIS system.

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

Wild predatory animals are the reservoir of rabies virus in our country, and these are mainly foxes and of less rates jackals. Of all the 529 animals found sick of rabies within the time-period 1988 – 2005, 262 are wild animals (49.5%), 229 (87.4%) of which being foxes. Highest is the number of rabies cases

registered in spring and less are the cases registered in autumn-winter seasons, those identified in summer being the lowest. This is due to ecological and biological specifics of the fox populations in our country. The spring pick of the disease is related to the reproduction period of foxes, while the autumn-winter rising trend is due to seeking and demand of living area manifested by young foxes.

**Additional information**

No

Table Rabies in animals

	Source of information	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Lyssavirus, unspecified	Classical rabies virus (genotype 1)	European Bat Lyssavirus - unspecified
Cats - stray cats	NRL	Animal	България	6	3		3	
Cattle (bovine animals)		Animal	България	3	0			
Dogs - stray dogs		Animal	България	16	1		1	
Foxes - wild		Animal	България	259	2		2	
Sheep		Animal	България	1	0			
Wolves - wild		Animal	България	2	0			
Bears - wild		Animal	България	1	0			
Rabbits - wild		Animal	България	1	0			

## 2.12 STAPHYLOCOCCUS INFECTION

### 2.12.1 General evaluation of the national situation

## 2.13 Q-FEVER

### 2.13.1 General evaluation of the national situation

#### A. Coxiella burnetii (Q-fever) general evaluation

##### History of the disease and/or infection in the country

The BG has information about the disease from 1997

1997

cattle: tested- 27820, positive - 260

sheep: tested- 38027, positive - 455

1998

cattle: tested- 26688, positive - 375

sheep: tested- 3806, positive - 15

1999

cattle: tested- 5740, positive - 67

sheep: tested- 3923, positive - 38

2000

cattle: tested- 3659, positive - 8

sheep: tested- 2254, positive - 25

2001

cattle: tested- 2528, positive - 43

sheep: tested- 2658, positive - 41

2002

cattle: tested- 2524, positive - 166

sheep: tested- 2706, positive - 238

2003

cattle: tested- 2961, positive - 69

sheep: tested- 1813, positive - 12

2004

cattle: tested- 3895, positive - 125

sheep: tested- 4113, positive - 94

2005

cattle: tested- 3296, positive - 110

sheep: tested- 2758, positive - 114

2006

cattle: tested- 2787, positive - 67

sheep: tested- 2319, positive - 35

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

In the BG the source of infection for the animals are the rodents. Each farm have to implement the stricct bio- security measures and to implement the rodent control.

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

n/a

Recent actions taken to control the zoonoses

When a farm is inspected by an official veterinarian, the latter has also to perform a thorough check of all the actions concerning the rodent control in respective holding.

Suggestions to the Community for the actions to be taken

no

Additional information

no

## 2.13.2 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)		Animal	33156	142	142
Goats		Animal	890	59	59
Sheep		Animal	1905	134	134

### **3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE**

### 3.1 ESCHERICHIA COLI, NON-PATHOGENIC

#### 3.1.1 General evaluation of the national situation

#### 3.1.2 Antimicrobial resistance in Escherichia coli, non-pathogenic

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

Test Method Used	Standard methods used for testing

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

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Cephalosporins	Cefotaxim		0.25	
Penicillins	Ampicillin		8	

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

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

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

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

## 3.2 ENTEROCOCCUS, NON-PATHOGENIC

### 3.2.1 General evaluation of the national situation

### 3.2.2 Antimicrobial resistance in Enterococcus, non-pathogenic isolates

Table Cut-off values for antibiotic resistance of *E. faecalis* in Animals

Test Method Used		Standard methods used for testing	

		Standard	Concentration (microg/ml)	Zone diameter (mm)
			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	

Table Cut-off values for antibiotic resistance of *E. faecalis* in Animals

		Concentration (microg/ml)	Zone diameter (mm)	
		Standard	Resistant >	Resistant <=
Oxazolidines	Linezolid		4	

Table Cut-off values for antibiotic resistance of *E. faecalis* in Feed

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

Table Cut-off values for antibiotic resistance of *E. faecalis* in Food

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

Table Cut-off values for antibiotic resistance of *E. faecium* in Animals

Test Method Used		Standard methods used for testing		
		Concentration (microg/ml)	Zone diameter (mm)	
		Standard	Resistant >	Resistant <=
Aminoglycosides	Streptomycin		128	
	Gentamicin		32	
Amphenicols	Chloramphenicol		32	
Penicillins	Ampicillin		4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	
Oxazolidines	Linezolid		4	

Table Cut-off values for antibiotic resistance of *E. faecium* in Feed

Test Method Used		Standard methods used for testing		
		Concentration (microg/ml)	Zone diameter (mm)	
		Standard	Resistant >	Resistant <=
Aminoglycosides	Streptomycin		128	
	Gentamicin		32	
Amphenicols	Chloramphenicol		32	
Penicillins	Ampicillin		4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	
Oxazolidines	Linezolid		4	

Table Cut-off values for antibiotic resistance of *E. faecium* in Food

Test Method Used		Standard methods used for testing		
		Concentration (microg/ml)	Zone diameter (mm)	
		Standard	Resistant >	Resistant <=
Aminoglycosides	Streptomycin		128	
	Gentamicin		32	
Amphenicols	Chloramphenicol		32	
Penicillins	Ampicillin		4	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	
Oxazolidines	Linezolid		4	

#### 4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

## 4.1 ENTEROBACTER SAKAZAKII

### 4.1.1 General evaluation of the national situation

## 4.2 HISTAMINE

### 4.2.1 General evaluation of the national situation

### 4.2.2 Histamine in foodstuffs

Table Histamine in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units in non-conformity	<= 100 mg/kg	>100 - <= 200 mg/kg	>200 - <= 400 mg/kg	> 400 mg/kg
Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme matured		Batch		178	0	178			
Fish - Fishery products which have undergone enzyme maturation treatment in brine		Batch		80	0	80			

## 4.3 STAPHYLOCOCCAL ENTEROTOXINS

### 4.3.1 General evaluation of the national situation

### 4.3.2 Staphylococcal enterotoxins in foodstuffs

Table Staphylococcal enterotoxins in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Cheeses made from cows' milk		Batch		1408	0
Cheeses made from cows' milk - hard		Batch		1690	0
Cheeses made from cows' milk - hard - made from pasteurised milk		Batch		233	0
Cheeses made from cows' milk - hard - made from raw or low heat-treated milk		Batch		320	0
Cheeses made from cows' milk - soft and semi-soft		Batch		189	0
Cheeses made from goats' milk		Batch		212	0
Cheeses made from sheep's milk		Batch		2194	0
Cheeses made from sheep's milk - soft and semi-soft		Batch		1890	0

## 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

no data available

Table Foodborne Outbreaks: summarised data

	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Salmonella - S. Typhimurium	0	unknown	unknown	unknown	0	0
Salmonella - S. Enteritidis	0	unknown	unknown	unknown	0	0
Salmonella - Other serovars	0	unknown	unknown	unknown	0	0
Campylobacter	0	unknown	unknown	unknown	0	0
Listeria - Listeria monocytogenes	0	unknown	unknown	unknown	0	0
Listeria - Other Listeria	0	unknown	unknown	unknown	0	0
Yersinia	0	unknown	unknown	unknown	0	0
Escherichia coli, pathogenic -	0	unknown	unknown	unknown	0	0
Bacillus - B. cereus	0	unknown	unknown	unknown	0	0
Bacillus - Other Bacillus	0	unknown	unknown	unknown	0	0
Staphylococcal enterotoxins	0	unknown	unknown	unknown	0	0
Clostridium - Cl. botulinum	0	unknown	unknown	unknown	0	0
Clostridium - Cl. perfringens	0	unknown	unknown	unknown	0	0
Clostridium - Other Clostridia	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Brucella	0	unknown	unknown	unknown	0	0

	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Other Bacterial agents - Shigella	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Other Bacterial	0	unknown	unknown	unknown	0	0
Parasites - Trichinella	0	unknown	unknown	unknown	0	0
Parasites - Giardia	0	unknown	unknown	unknown	0	0
Parasites - Cryptosporidium	0	unknown	unknown	unknown	0	0
Parasites - Anisakis	0	unknown	unknown	unknown	0	0
Parasites - Other Parasites	0	unknown	unknown	unknown	0	0
Viruses - Norovirus	0	unknown	unknown	unknown	0	0
Viruses - Hepatitis viruses	0	unknown	unknown	unknown	0	0
Viruses - Other Viruses	0	unknown	unknown	unknown	0	0
Other agents - Histamine	0	unknown	unknown	unknown	0	0
Other agents - Marine biotoxins	0	unknown	unknown	unknown	0	0
Other agents - Other Agents	0	unknown	unknown	unknown	0	0
Unknown agent	0	unknown	unknown	unknown	0	0