BULGARIA

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

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

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

IN 2008
**INFORMATION ON THE REPORTING AND MONITORING SYSTEM**

Country:  **Bulgaria**

Reporting Year:

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<th>Description</th>
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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 2008.

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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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 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

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<tr>
<th>Animal species</th>
<th>Category of animals</th>
<th>Year</th>
<th>Number of herds or flocks</th>
<th>Number of slaughtered animals</th>
<th>Livestock numbers (live animals)</th>
<th>Number of holdings</th>
<th>Year</th>
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<td>95433</td>
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<td></td>
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<td></td>
<td>Year</td>
<td>Year</td>
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</tr>
<tr>
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<td>3500</td>
<td>1015</td>
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<td></td>
<td>milk goats</td>
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<td>139224</td>
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<td><strong>Pigs</strong></td>
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<td></td>
<td>fattening pigs</td>
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<tr>
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<td>804974</td>
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<th>Livestock numbers (live animals)</th>
<th>Year</th>
<th>Number of holdings</th>
</tr>
</thead>
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<td>Wild boars</td>
<td>farmed - in total</td>
<td></td>
<td>17632</td>
<td></td>
<td>64852</td>
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<td></td>
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</tbody>
</table>

**Footnote:**

Wild boars are shoted, not slaughtered.
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 multi 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 approval. The implementation of the program will start on 1 Jan. 2008.

Relevance of the findings in animals, feedingstuffs and foodstuffs to human cases
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;
- feacal 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 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.
Bulgaria - 2008 Report on trends and sources of zoonoses

B. 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
C. 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.
D. 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

No data available

Additional information

NO
E. 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.
### Table Salmonella in poultry meat and products thereof

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Salmonella spp.</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
<th>Salmonella spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat from broilers (Gallus gallus) - fresh - at retail</td>
<td>batch</td>
<td></td>
<td>4046</td>
<td>12</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail</td>
<td>batch</td>
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<td>6144</td>
<td>34</td>
<td>8</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail</td>
<td>batch</td>
<td></td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail</td>
<td>batch</td>
<td></td>
<td>910</td>
<td>20</td>
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<td>batch</td>
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### Table Salmonella in milk and dairy products

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<th>Sample weight</th>
<th>Units tested</th>
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<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
<th><em>Salmonella spp.</em>, unspecified</th>
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<tbody>
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<td>1731</td>
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<td>batch</td>
<td></td>
<td>614</td>
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</tr>
<tr>
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<tr>
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<td>batch</td>
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<td>20</td>
<td>0</td>
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<td>Sample weight</td>
<td>Units tested</td>
<td>Total units positive for Salmonella spp.</td>
<td>S. Enteritidis</td>
<td>S. Typhimurium</td>
<td>Salmonella spp., unspecified</td>
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<tr>
<td>Milk, cows’ - raw milk for manufacture - intended for manufacture of pasteurised/UHT products</td>
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### Table Salmonella in red meat and products thereof

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<th>S. Derby</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
<th>Salmonella spp., unspecified</th>
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<td></td>
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<tr>
<td>Meat from bovine animals - minced meat - intended to be eaten raw - at retail</td>
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<td>0</td>
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<td></td>
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<td>batch</td>
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<td>batch</td>
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<td>2715</td>
<td>19</td>
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<td>Sample weight</td>
<td>Units tested</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S. Derby</td>
<td>S. Enteritidis</td>
<td>S. Typhimurium</td>
<td>S. unsp.</td>
<td></td>
</tr>
<tr>
<td>Meat from pig - minced meat - intended to be eaten raw - at retail</td>
<td>batch</td>
<td>batch</td>
<td>177</td>
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<td>batch</td>
<td>batch</td>
<td>6288</td>
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<td>0</td>
<td>22</td>
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### Table Salmonella in other food

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<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Salmonella spp.</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
<th>Salmonella spp., unspecified</th>
</tr>
</thead>
<tbody>
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<td>Crustaceans - at retail</td>
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<td>31</td>
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<td>Egg products - at retail</td>
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</table>
2.1.4 Salmonella in animals

A. 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
B. 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.
C. 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.
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 beginning of 2008

Fattening herds

The sampling strategy is in accordance with the Commission Decision (2007/219/EC)
E. 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
### Table Salmonella in breeding flocks of Gallus gallus

<table>
<thead>
<tr>
<th>Number of existing flocks</th>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Salmonella spp.</th>
<th>S. Enteritidis</th>
<th>S. Hadar</th>
<th>S. Infantis</th>
<th>S. Typhimurium</th>
<th>S. Virchow</th>
<th>Salmonella spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks</td>
<td></td>
<td></td>
<td>0</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Gallus gallus (fowl) - parent breeding flocks for egg production line - during production period</td>
<td>flock</td>
<td>85</td>
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</tr>
<tr>
<td>Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period</td>
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<td></td>
<td></td>
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</tr>
<tr>
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<td></td>
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<tr>
<td>Gallus gallus (fowl) - parent breeding flocks for meat production line - during production period</td>
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<tr>
<td>Gallus gallus (fowl) - parent breeding flocks for meat production line - during rearing period</td>
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<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - parent breeding flocks, unspecified - day-old chicks</td>
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</tr>
<tr>
<td>Gallus gallus (fowl) - parent breeding flocks, unspecified - during production period</td>
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</tr>
<tr>
<td>Gallus gallus (fowl) - parent breeding flocks, unspecified - during rearing period</td>
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</table>

**Footnote:**

Breeding flocks - 85
Number of animals - 997 101
## Table Salmonella in other poultry

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<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
<th>Salmonella spp., unspecified</th>
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<tr>
<td>Gallus gallus (fowl) - broilers - during rearing period</td>
<td></td>
<td>flock</td>
<td></td>
<td>632</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - laying hens</td>
<td>228</td>
<td>flock</td>
<td></td>
<td>228</td>
<td>2</td>
<td>2</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Gallus gallus (fowl) - laying hens - day-old chicks</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - laying hens - during production period</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - laying hens - during rearing period</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - unspecified - day-old chicks</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - unspecified - during production period</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - unspecified - during rearing period</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkeys</td>
<td></td>
<td>flock</td>
<td></td>
<td>14</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkeys - breeding flocks</td>
<td></td>
<td>flock</td>
<td></td>
<td>14</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkeys - meat production flocks</td>
<td></td>
<td>flock</td>
<td></td>
<td>13</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Footnote:
- The total number of Salmonella spp. positive laying hen flocks (LHF) in production (including the results of both official and industry samplings) - 2 flocks
- The total number of S. Enteritidis and/or S. Typhimurium positive LHF in production (including the results of both official and industry samplings) - 2 flocks
- The total number of LHF under the control programme - 2 flocks
- The number of Salmonella spp. positive LHF in production detected positive by industry - 0 flocks
- The number of S. Enteritidis and/or S. Typhimurium positive LHF in production detected positive by industry - 0 flocks
- The total number of LHF under the control programme - 0 flocks
- The number of Salmonella spp. positive laying hen flocks (LHF) in production detected positive by the competent authority - 2 flocks
- The number of S. Enteritidis and/or S. Typhimurium positive laying hen flocks (LHF) in production detected positive by the competent authority - 2 flocks
- The total number of LHF tested by the competent authority in the framework of objective sampling - 2 flocks
- The number of Salmonella spp. positive laying hen flocks (LHF) in production detected positive by the competent authority in the suspect sampling - 2 flocks
- The number of S. Enteritidis and/or S. Typhimurium positive laying hen flocks (LHF) in production detected positive by the competent authority in the suspect sampling - 2 flocks
- The total number of LHF tested by the competent authority in case of suspicion - 8 flocks
### Table Salmonella in other birds

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for <em>Salmonella</em> spp.</th>
<th><em>S. Enteritidis</em></th>
<th><em>S. Typhimurium</em></th>
<th><em>Salmonella</em> spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea fowl</td>
<td></td>
<td>96</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ostriches</td>
<td>animal</td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partridges</td>
<td>animal</td>
<td>41</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pheasants</td>
<td>animal</td>
<td>82</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigeons</td>
<td>animal</td>
<td>8</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table Salmonella in other animals

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Salmonella spp.</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
<th>Salmonella spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (bovine animals)</td>
<td>animal</td>
<td>15</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle (bovine animals) - adult cattle over 2 years</td>
<td>animal</td>
<td>34</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle (bovine animals) - calves (under 1 year)</td>
<td>animal</td>
<td>42</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goats</td>
<td>animal</td>
<td>21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td>herd</td>
<td>23</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigs - breeding animals</td>
<td>herd</td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigs - fattening pigs</td>
<td>herd</td>
<td>12</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep</td>
<td>herd</td>
<td>75</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 2.1.5 Salmonella in feedingstuffs

### Table Salmonella in feed material of animal origin

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Salmonella spp.</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
<th>Salmonella spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed material of land animal origin - animal fat</td>
<td>batch</td>
<td></td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed material of land animal origin - dairy products</td>
<td>batch</td>
<td></td>
<td>60</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed material of land animal origin - meat and bone meal</td>
<td>batch</td>
<td></td>
<td>12</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed material of land animal origin - poultry offal meal</td>
<td>batch</td>
<td></td>
<td>72</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed material of marine animal origin - fish meal</td>
<td>batch</td>
<td></td>
<td>6</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table Salmonella in other feed matter

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Salmonella spp.</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
<th>Salmonella spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed material of cereal grain origin - maize</td>
<td>batch</td>
<td></td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed material of cereal grain origin - other cereal grain derived</td>
<td>batch</td>
<td></td>
<td>90</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed material of oil seed or fruit origin - sunflower seed derived</td>
<td>batch</td>
<td></td>
<td>24</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table Salmonella in compound feedingstuffs

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Salmonella spp.</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
<th>Salmonella spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compound feedingstuffs for cattle - final product</td>
<td>batch</td>
<td></td>
<td>159</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compound feedingstuffs for cattle - process control</td>
<td>batch</td>
<td></td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compound feedingstuffs for pigs - final product</td>
<td>batch</td>
<td></td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compound feedingstuffs for pigs - process control</td>
<td>batch</td>
<td></td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compound feedingstuffs for poultry (non specified) - final product</td>
<td>batch</td>
<td></td>
<td>4</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compound feedingstuffs for poultry (non specified) - process control</td>
<td>batch</td>
<td></td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compound feedingstuffs for poultry - laying hens - final product</td>
<td>batch</td>
<td></td>
<td>6</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compound feedingstuffs for poultry - broilers - final product</td>
<td>batch</td>
<td></td>
<td>13</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pet food - dog snacks (pig ears, chewing bones)</td>
<td>batch</td>
<td></td>
<td>74</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 стратегies 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
no data available

Additional information
no
B. 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

Packet 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.

Documentation 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
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 metod, such as the methods reccomended by the National Committee for Clinical Laboratory Standards (NCCLS, and after 1 January 2005 popular under the name Clinical Laboratory Standards Institute â€” CLSI). The method of dilution in agar is accepted, as well as the broth dilution method. Results shall be reported as quantative data (minimal supressing 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

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

Breakpoints 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
   n/a

Additional information
   no
C. 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 estratégias in place
   1. Antimicrobials shall not be used as a specific method to control Salmonella in pultry.
   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
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

n/a

Additional information

no
D. 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
Breakpoints 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
no data available

Additional information
no
E. 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 sampling 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 programme 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 with 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
n/a
Additional information

no
F. 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
n/a
Bulgaria - 2008 Report on trends and sources of zoonoses

Additional information

no
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

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for thermophilic Campylobacter spp.</th>
<th>C. coli</th>
<th>C. jejuni</th>
<th>C. lari</th>
<th>C. upsaliensis</th>
<th>Thermophilic Campylobacter spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (bovine animals) - dairy cows</td>
<td>animal</td>
<td>218</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 pigs**

**Sampling strategy used in monitoring**

**Frequency of the sampling**

no data available
C. Antimicrobial resistance in Campylobacter jejuni and coli in poultry

Sampling strategy used in monitoring
Frequency of the sampling
   no data available
D. Antimicrobial resistance in Campylobacter jejuni and coli in foodstuff derived from cattle

Sampling strategy used in monitoring

Frequency of the sampling

no data available
E. Antimicrobial resistance in Campylobacter jejuni and coli in foodstuff derived from pigs

Sampling strategy used in monitoring

Frequency of the sampling

no data available
F. Antimicrobial resistance in Campylobacter jejuni and coli in foodstuff derived from poultry

Sampling strategy used in monitoring

Frequency of the sampling

no data available
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**

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for L. monocytogenes</th>
<th>Units tested with detection method</th>
<th>Listeria monocytogenes presence in x g</th>
<th>Units tested with enumeration method</th>
<th>&gt; detection limit but &lt;= 100 cfu/g</th>
<th>L. monocytogenes &gt; 100 cfu/g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheeses made from cows’ milk - hard - made from pasteurised milk - at retail</td>
<td>batch</td>
<td>200g</td>
<td>2733</td>
<td>0</td>
<td>2502</td>
<td>231</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from cows’ milk - hard - made from raw or low heat-treated milk - at retail</td>
<td>batch</td>
<td>200g</td>
<td>1375</td>
<td>0</td>
<td>1357</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from cows’ milk - soft and semi-soft - made from pasteurised milk - at retail</td>
<td>batch</td>
<td>200g</td>
<td>854</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from cows’ milk - soft and semi-soft - made from raw or low heat-treated milk - at retail</td>
<td>batch</td>
<td>200g</td>
<td>2826</td>
<td>0</td>
<td>2826</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from goats’ milk - hard - made from raw or low heat-treated milk - at retail</td>
<td>batch</td>
<td>200g</td>
<td>18</td>
<td>0</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from goats’ milk - soft and semi-soft - made from pasteurised milk - at retail</td>
<td>batch</td>
<td>25g</td>
<td>145</td>
<td>0</td>
<td>145</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from goats’ milk - soft and semi-soft - made from raw or low heat-treated milk - at retail</td>
<td>batch</td>
<td>250g</td>
<td>25</td>
<td>0</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from sheep’s milk - hard - made from pasteurised milk - at retail</td>
<td>batch</td>
<td>250g</td>
<td>525</td>
<td>0</td>
<td>525</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from sheep’s milk - hard - made from raw or low heat-treated milk - at retail</td>
<td>batch</td>
<td>250g</td>
<td>23</td>
<td>0</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from sheep’s milk - soft and semi-soft - made from pasteurised milk - at retail</td>
<td>batch</td>
<td>25g</td>
<td>329</td>
<td>0</td>
<td>329</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from sheep’s milk - soft and semi-soft - made from raw or low heat-treated milk - at retail</td>
<td>batch</td>
<td>250g</td>
<td>15</td>
<td>0</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy products (excluding cheeses) - butter - at retail</td>
<td>batch</td>
<td>100g</td>
<td>601</td>
<td>0</td>
<td>596</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>
### Table Listeria monocytogenes in milk and dairy products

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for L. monocytogenes</th>
<th>Units tested with detection method</th>
<th>Listeria monocytogenes presence in x g</th>
<th>Units tested with enumeration method</th>
<th>&gt; detection limit but &lt;= 100 cfu/g</th>
<th>L. monocytogenes &gt; 100 cfu/g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy products (excluding cheeses) - cream - at retail</td>
<td>batch</td>
<td>25g</td>
<td>129</td>
<td>0</td>
<td>90</td>
<td></td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk, cows’ - pasteurised milk - at retail</td>
<td>batch</td>
<td>250ml</td>
<td>1326</td>
<td>0</td>
<td>1326</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk, cows’ - raw - intended for direct human consumption</td>
<td>batch</td>
<td>250ml</td>
<td>359</td>
<td>0</td>
<td>359</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk, cows’ - raw milk for manufacture - intended for manufacture of raw or low heat-treated products</td>
<td>batch</td>
<td>250ml</td>
<td>1336</td>
<td>0</td>
<td>1336</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>
### Table Listeria monocytogenes in other foods

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for <em>L. monocytogenes</em></th>
<th>Units tested with detection method</th>
<th>Listeria monocytogenes presence in x g</th>
<th>Units tested with enumeration method</th>
<th>&gt; detection limit but &lt;= 100 cfu/g</th>
<th>L. monocytogenes &gt; 100 cfu/g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crustaceans - unspecified - cooked - at retail</td>
<td>batch</td>
<td>25g</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish - smoked - at retail</td>
<td>batch</td>
<td>150g</td>
<td>602</td>
<td>12</td>
<td>602</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from bovine animals - fresh</td>
<td>batch</td>
<td>250g</td>
<td>370</td>
<td>4</td>
<td>370</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from bovine animals - meat products - cooked, ready-to-eat - at processing plant</td>
<td>batch</td>
<td>250g</td>
<td>327</td>
<td>0</td>
<td>327</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - fresh</td>
<td>batch</td>
<td>250g</td>
<td>510</td>
<td>8</td>
<td>510</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail</td>
<td>batch</td>
<td>250g</td>
<td>957</td>
<td>1</td>
<td>937</td>
<td>1</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from pig - fresh</td>
<td>batch</td>
<td>250g</td>
<td>1139</td>
<td>11</td>
<td>1139</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from pig - meat products - cooked, ready-to-eat - at retail</td>
<td>batch</td>
<td>250g</td>
<td>7991</td>
<td>28</td>
<td>7983</td>
<td>3</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molluscan shellfish - cooked - at processing plant</td>
<td>batch</td>
<td>25g</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
### 2.3.4 Listeria in animals

**Table Listeria in animals**

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Listeria spp.</th>
<th>L. monocytogenes</th>
<th>Listeria spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (bovine animals)</td>
<td>animal</td>
<td>20</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle (bovine animals) - dairy cows</td>
<td>animal</td>
<td>10</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl)</td>
<td>animal</td>
<td>54</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goats</td>
<td>animal</td>
<td>6</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td>animal</td>
<td>12</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep</td>
<td>animal</td>
<td>34</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Turkeys</td>
<td>animal</td>
<td>28</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 2.4 E. COLI INFECTIONS

#### 2.4.1 General evaluation of the national situation

#### 2.4.2 E. coli infections in humans

#### 2.4.3 Escherichia coli, pathogenic in foodstuffs

**Table VT E. coli in food**

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Verotoxigenic E. coli (VTEC)</th>
<th>Verotoxigenic E. coli (VTEC)-VTEC O157</th>
<th>Verotoxigenic E. coli (VTEC)-VTEC non-O157</th>
<th>Verotoxigenic E. coli (VTEC)-VTEC, unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat from bovine animals - fresh - at retail</td>
<td>batch</td>
<td></td>
<td>82</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from bovine animals - minced meat - intended to be eaten raw - at retail</td>
<td>batch</td>
<td></td>
<td>193</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus)</td>
<td>batch</td>
<td></td>
<td>108</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - fresh</td>
<td>batch</td>
<td></td>
<td>243</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from pig - fresh</td>
<td>batch</td>
<td></td>
<td>172</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Meat from pig - minced meat - intended to be eaten raw</td>
<td>batch</td>
<td></td>
<td>41</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk, cows’ - raw milk for manufacture - intended for manufacture of raw or low heat-treated products</td>
<td>batch</td>
<td></td>
<td>5</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.4.4 Escherichia coli, pathogenic in animals

Table VT E. coli in animals

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Verotoxigenic E. coli (VTEC)</th>
<th>Verotoxigenic E. coli (VTEC)-VTEC O157</th>
<th>Verotoxigenic E. coli (VTEC)-VTEC non-O157</th>
<th>Verotoxigenic E. coli (VTEC)-VTEC, unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (bovine animals)</td>
<td>animal</td>
<td></td>
<td>16</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle (bovine animals) - calves (under 1 year)</td>
<td>animal</td>
<td></td>
<td>13</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle (bovine animals) - dairy cows - at slaughterhouse</td>
<td>animal</td>
<td></td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle (bovine animals) - meat production animals - at slaughterhouse</td>
<td>animal</td>
<td></td>
<td>6</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dogs</td>
<td>animal</td>
<td></td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goats - at slaughterhouse</td>
<td>animal</td>
<td></td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td>animal</td>
<td></td>
<td>6</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poultry, unspecified</td>
<td>animal</td>
<td></td>
<td>299</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep - at slaughterhouse</td>
<td>animal</td>
<td></td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1 General evaluation of the national situation

2.5.2 Tuberculosis, mycobacterial diseases in humans

2.5.3 Mycobacterium in animals

A. Mycobacterium bovis in bovine animals

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 Silistra.
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 VelkoTarnovo 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 herbs 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 tuberculine (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 tuberculine (tuberculization)

**Other preventive measures than vaccination in place**

differential examination (with bovine and poultry tuberculine) and examinations with double dose of tuberculine (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 tuberculine;
-Examination after 69 days with double dose of tuberculine (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
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

<table>
<thead>
<tr>
<th>Region</th>
<th>Total number of existing bovine</th>
<th>Officially free herds</th>
<th>Infected herds</th>
<th>Routine tuberculin testing</th>
<th>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)</th>
<th>Number of animals with suspicious lesions of tuberculosis examined and submitted to histopathologic and bacteriological examinations</th>
<th>Number of animals detected positive in bacteriological examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole country</td>
<td>138999</td>
<td>584810</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>554101</td>
<td>24800</td>
</tr>
<tr>
<td>Total</td>
<td>138999</td>
<td>584810</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>554101</td>
<td>24800</td>
</tr>
<tr>
<td>Total - 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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: 157,427 bovine animals;
- 2001: 126,836 bovine animals;
- 2002: 126,633 bovine animals;
- 2003: 359,770 bovine animals;
- 2004: 327,311 bovine animals;
- 2005: 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/ΕΕ, 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 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**

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 Brucellosis in humans

2.6.3 Brucella in animals

A. Brucella abortus in bovine animals

Status as officially free of bovine brucellosis during the reporting year

The entire country free

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 стратегий 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 stamped out. After killing of animals, premises are disinfected. All
   killed animals are destructed in the rendering 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
   No data available

Additional information
   No
Bulgaria - 2008 Report on trends and sources of zoonoses

B. 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 then 50 female animals the saples are taken of each female animal
- all male animals of age more then 6 mounths.
- serological testing of all slipping animals- after the slipping and 15 days after that
- serological testin 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
C. 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; faetus and placenta

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

   Date of confirmation â€“ 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/E\(\text{C}\) 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
n/a

Additional information
no
## Table Brucellosis in other animals

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Brucella spp.</th>
<th>B. abortus</th>
<th>B. melitensis</th>
<th>B. suis</th>
<th>Brucella spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigs</td>
<td>animal</td>
<td>83363</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### Table Bovine brucellosis in countries and regions that do not receive Community co-financing for eradication programme

<table>
<thead>
<tr>
<th>Region</th>
<th>Herds</th>
<th>Animals</th>
<th>Number of herds</th>
<th>Of officially free herds</th>
<th>%</th>
<th>Number of abortions due to Brucella abortus</th>
<th>Number of positive BST</th>
<th>Number of animals examined microbio logically</th>
<th>Number of animals positive microbio logically</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole country</td>
<td>31684</td>
<td>530817</td>
<td>31683</td>
<td>100</td>
<td>1</td>
<td>0</td>
<td>57630</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>31684</td>
<td>530817</td>
<td>31683</td>
<td>100.0</td>
<td>1</td>
<td>0</td>
<td>57630</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total - 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table Ovine or Caprine Brucellosis in countries and regions that do not receive Community co-financing for eradication programme

<table>
<thead>
<tr>
<th>Region</th>
<th>Total number of existing</th>
<th>Officially free herds</th>
<th>Infected herds</th>
<th>Surveillance</th>
<th>Investigations of suspect cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Herds</td>
<td>Animals</td>
<td>Number of herds</td>
<td>%</td>
<td>Number of herds</td>
</tr>
<tr>
<td>Whole country</td>
<td>85656</td>
<td>1532066</td>
<td>40245</td>
<td>46.98</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>85656</td>
<td>1532066</td>
<td>40245</td>
<td>46.98</td>
<td>2</td>
</tr>
<tr>
<td>Total - 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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
   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. Yersinosis 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**
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
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 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
compresion method,
destructive method

For Trichinella free holdings
no monitoring system

compresion method,
destructive method

For categories of holdings officially recognised Trichinella-free
no monitoring system

compresion method,
destructive method

For regions with negligible Trichinella risk
no monitoring system

compresion 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

compresion method,
destructive method

For Trichinella free holdings

no monitoring system

compresion method,
destructive method

For categories of holdings officially recognised Trichinella-free

no monitoring system

compresion method,
destructive method

For regions with negligible Trichinella risk

no monitoring system

compresion 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
Fattening pigs raised under controlled housing conditions in integrated production system
   We not found Trichinela in Bulgaria in those kind of farms.
Fattening pigs not raised under controlled housing conditions in integrated production system
   We found only Trichinela spiralis in Bulgaria in those kind of farms.

Relevance of the findings in animals to findings in foodstuffs and to human cases
   no data available

Additional information
   no
Bulgaria - 2008 Report on trends and sources of zoonoses

B. 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 deratisation 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
no data available

Additional information

no
### Table Trichinella in animals

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Trichinella spp.</th>
<th>T. spiralis</th>
<th>Trichinella spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foxes</td>
<td>single</td>
<td>94</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td>single</td>
<td>37897</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Pigs - breeding animals - unspecified - sows and boars</td>
<td>single</td>
<td>884</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Pigs - fattening pigs - not raised under controlled housing conditions in integrated production system</td>
<td>single</td>
<td>9741</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Pigs - fattening pigs - raised under controlled housing conditions in integrated production system</td>
<td>single</td>
<td>294420</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Solipeds, domestic - horses</td>
<td>single</td>
<td>1126</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Wild boars - farmed</td>
<td>single</td>
<td>22884</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Wild boars - wild</td>
<td>single</td>
<td>4307</td>
<td>34</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>
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
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.

Analisis 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
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 destroed in randering 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 Echinococciosis in humans

### 2.9.3 Echinococcus in animals

#### Table Echinococcus in animals

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Echinococcus spp.</th>
<th>E. granulosus</th>
<th>E. multilocularis</th>
<th>Echinococcus spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (bovine animals)</td>
<td>animal</td>
<td>23110</td>
<td>3700</td>
<td></td>
<td></td>
<td>3700</td>
</tr>
<tr>
<td>Dogs</td>
<td>animal</td>
<td>279</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td>animal</td>
<td>258315</td>
<td>3375</td>
<td></td>
<td></td>
<td>3375</td>
</tr>
<tr>
<td>Sheep</td>
<td>single</td>
<td>637493</td>
<td>27453</td>
<td></td>
<td></td>
<td>27453</td>
</tr>
</tbody>
</table>
2.10 TOXOPLASMOsis

2.10.1 General evaluation of the national situation

2.10.2 Toxoplasmosis in humans

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 â€“ 2005, 262 are wild animals (49.5%), 229 (87.4%) of which being foxes (Table 2).


<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Domestic Animals /livestock/Dogs</th>
<th>Cats</th>
<th>Foxes</th>
<th>Jackals</th>
<th>Other species</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>433</td>
<td>392</td>
<td>34</td>
<td>3</td>
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<td>1990</td>
<td>321</td>
<td>216</td>
<td>65</td>
<td>10</td>
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<td>0</td>
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<tr>
<td>1991</td>
<td>218</td>
<td>169</td>
<td>44</td>
<td>5</td>
<td>4</td>
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<tr>
<td>1992</td>
<td>237</td>
<td>208</td>
<td>28</td>
<td>7</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>1993</td>
<td>322</td>
<td>269</td>
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<td>1994</td>
<td>145</td>
<td>112</td>
<td>26</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>1995</td>
<td>244</td>
<td>202</td>
<td>40</td>
<td>2</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>1996</td>
<td>299</td>
<td>251</td>
<td>35</td>
<td>8</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>1997</td>
<td>217</td>
<td>171</td>
<td>31</td>
<td>5</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>1998</td>
<td>210</td>
<td>166</td>
<td>30</td>
<td>4</td>
<td>10</td>
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<td>311</td>
<td>258</td>
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<td>4</td>
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<td>152</td>
<td>108</td>
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<td>203</td>
<td>158</td>
<td>19</td>
<td>3</td>
<td>10</td>
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</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Month</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
<th>X</th>
<th>XI</th>
<th>XII</th>
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<tr>
<td>Rabies cases</td>
<td>17</td>
<td>20</td>
<td>16</td>
<td>34</td>
<td>15</td>
<td>17</td>
<td>10</td>
<td>14</td>
<td>10</td>
<td>13</td>
<td>19</td>
<td>14</td>
</tr>
</tbody>
</table>

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 a 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**

<table>
<thead>
<tr>
<th>Animal Species</th>
<th>Wolves</th>
<th>Jackals</th>
<th>Foxes</th>
<th>Stray Dogs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbers</td>
<td>902</td>
<td>13,450</td>
<td>17,723</td>
<td>10,427</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Blagoevgrad</td>
<td>-</td>
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<tr>
<td>Burgas11</td>
<td>1</td>
<td>1</td>
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<tr>
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<tr>
<td>Stara Zagora------1--------</td>
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</tr>
</tbody>
</table>
Relevance of the findings in animals, feedingstuffs and foodstuffs to human cases
n/a

Suggestions to the Community for the actions to be taken
not yet

Additional information
no
2.11.2 Rabies in humans

2.11.3 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 supply 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 â€“ 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

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Lyssavirus (rabies)</th>
<th>Unspecified Lyssavirus</th>
<th>Classical rabies virus (genotype 1)</th>
<th>European Bat Lyssavirus - unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Badgers - wild</td>
<td>animal</td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cats - stray cats</td>
<td>animal</td>
<td>19</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle (bovine animals)</td>
<td>animal</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dogs - stray dogs</td>
<td>animal</td>
<td>63</td>
<td>9</td>
<td>9</td>
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<td></td>
</tr>
<tr>
<td>Foxes - wild</td>
<td>animal</td>
<td>74</td>
<td>34</td>
<td>34</td>
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<td></td>
</tr>
<tr>
<td>Sheep</td>
<td>animal</td>
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<tr>
<td>Wolves - wild</td>
<td>animal</td>
<td>11</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.12 Q-FEVER

2.12.1 General evaluation of the national situation

A. Coxiella burnetii (Q-fever) general evaluation

History of the disease and/or infection in the country
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 strict bio-security measures and to implement the rodent control.
Relevance of the findings in animals, feedingstuffs and foodstuffs to human cases
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
### 2.12.2 Coxiella (Q-fever) in animals

Table Coxiella burnetii (Q fever) in animals

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Coxiella (Q-fever)</th>
<th>C. burnetii</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (bovine animals)</td>
<td>animal</td>
<td>249</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Goats</td>
<td>animal</td>
<td>25</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sheep</td>
<td>animal</td>
<td>820</td>
<td>41</td>
<td>41</td>
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3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE
3.1 ENTEROCOCCUS, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

3.2 ESCHERICHIA COLI, NON-PATHOGENIC

3.2.1 General evaluation of the national situation
4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS
## 4.1 HISTAMINE

### 4.1.1 General evaluation of the national situation

### 4.1.2 Histamine in foodstuffs

**Table Histamine in food**

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units in non-conformity</th>
<th>&lt;= 100 mg/kg</th>
<th>&gt;100 - &lt;=200 mg/kg</th>
<th>&gt;200 - &lt;=400 mg/kg</th>
<th>&gt;400 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated</td>
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<td></td>
<td>172</td>
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<td>172</td>
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</tr>
<tr>
<td>Fish - Fishery products which have undergone enzyme maturation treatment in brine</td>
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<td>63</td>
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</table>
4.2 ENTEROBACTER SAKAZAKII

4.2.1 General evaluation of the national situation

4.2.2 Enterobacter sakazakii in foodstuffs

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

4.3.2 Staphylococcal enterotoxins in foodstuffs

Table Staphylococcal enterotoxins in food

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Staphylococcal enterotoxins</th>
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<tbody>
<tr>
<td>Cheeses made from cows’ milk - hard</td>
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<tr>
<td>Cheeses made from goats’ milk - hard</td>
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<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Cheeses made from sheep’s milk - hard</td>
<td></td>
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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 no data available
### Foodborne Outbreaks: summarized data

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<tr>
<th></th>
<th>Total number of outbreaks</th>
<th>Outbreaks</th>
<th>Human cases</th>
<th>Hospitalized</th>
<th>Deaths</th>
<th>Number of verified outbreaks</th>
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