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

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

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

IN 2011
## INFORMATION ON THE REPORTING AND MONITORING SYSTEM

**Country:** Bulgaria  
**Reporting Year:** 2011

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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 2011.

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

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

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

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

Bulgaria - 2011 Report on trends and sources of zoonoses

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5 FOODBORNE OUTBREAKS
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 BFSA collected the data from the Regional Food Safety Directorates about the number of the animals and the animal holdings.

Definitions used for different types of animals, herds, flocks and holdings as well as the types covered by the information
The animal holding is the place where the animals are kept.

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

Comparing with years before (30 years ago) animal population is very small, contacts between animals (especially in rural areas) are rare and trade is not very intensive.

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 BFSA is collected the data for the all regions.

Additional information
no
### Table Susceptible animal populations

*Only if different than current reporting year*

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<td>- in total</td>
<td>3</td>
<td>2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wild boars</td>
<td>farmed - in total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. INFORMATION ON SPECIFIC ZOONOSES AND ZOONOTIC AGENTS

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

2.1.1 General evaluation of the national situation

A. General evaluation

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

  Bulgarian food safety agency had survey and eradication programs in Layng hens, breeding poultry flocks, broilers, turkeys, pigs

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

  no data available

Recent actions taken to control the zoonoses

  since now BFSA 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;
  faecal samples of fattening pigs.

Suggestions to the Community for the actions to be taken

  no

Additional information

  no
2.1.2 Salmonellosis in humans

A. Salmonellosis in humans

Reporting system in place for the human cases
   A competent authority is a Ministry of health.
2.1.3 Salmonella in foodstuffs

A. Salmonella spp. in pig meat and products thereof

Monitoring system
Sampling strategy
At slaughterhouse and cutting plant
- In each slaughterhouse and cutting plant there is a program for monitoring of Salmonella spp.
- The samples shall be taken from each pig batch.
At meat processing plant
- As a Member State, Bulgaria implements Council Regulation 2073/2004/EC

At retail
no

Methods of sampling (description of sampling techniques)
At slaughterhouse and cutting plant
- according COMMISSION DECISION 2007/219/EC, concerning a Community financial contribution towards a baseline survey on the prevalence of Salmonella in slaughter pigs to be carried out in Bulgaria and in Romania

Preventive measures in place
Regarding the State Profilaxis Program of Bulgaria in the outbreaks there is a vaccination of pigs twice per year (at the first day after born and 15 days after that.)
- In all backyards and commercial holdings there are biosecurity measures according to the EU legislation.

Control program/mechanisms
The control program/strategies in place
- The control programe is according to the Commission Decision 2007/219 EC

Suggestions to the Community for the actions to be taken
No

Notification system in place
WAHIS

Results of the investigation
No data available

Relevance of the findings in animals to findings in foodstuffs and to human cases (as a source of infection)
No data available

Additional information
NO
B. Salmonella spp. in bovine meat and products thereof

Monitoring system

Sampling strategy
At slaughterhouse and cutting plant
   As a member state, we implement EU legislation.
   The sampling strategy is according to Reg. 2073/2005/EC.
At meat processing plant
   As a member state, we implement EU legislation.
   The sampling strategy is according to Reg. 2073/2005/EC.
At retail
   no

Frequency of the sampling
At meat processing plant
   Every 2 months

Type of specimen taken
At meat processing plant
   Meat products: processed, salami

Methods of sampling (description of sampling techniques)
At meat processing plant
   under Reg. 2073/2005

Definition of positive finding
At meat processing plant
   under Reg. 2073/2005

Preventive measures in place
   HACCP

Control program/mechanisms
   The control program$strategies in place
   no
   Suggestions to the Community for the actions to be taken
   no

Measures in case of the positive findings or single cases
   under contingency plan

Notification system in place
   RASFF

Additional information
   no
C. Salmonella spp. in broiler meat and products thereof

Monitoring system

Sampling strategy

At slaughterhouse and cutting plant
As a member state, we implement EU legislation.

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

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

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

At the regional food safety directorates 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.

Frequency of the sampling

At slaughterhouse and cutting plant
Every batch is sampled

At meat processing plant
Once a month

At retail
Suspected batches are sampled
Type of specimen taken
- At slaughterhouse and cutting plant
  - Fresh meat
- At meat processing plant
  - Meat preparations: ____
- At retail
  - Meat products: ____

Methods of sampling (description of sampling techniques)
- At slaughterhouse and cutting plant
  - under Reg. 2073/2005
- At meat processing plant
  - under Reg. 2073/2005
- At retail
  - under Reg. 2073/2005

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.
- At meat processing plant
  - under Reg. 2073/2005
- At retail
  - under Reg. 2073/2005

Diagnostic/analytical methods used
- At slaughterhouse and cutting plant
- At meat processing plant
- At retail

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.
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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

The control program/strategies in place

no

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.

Notification system in place

RASFF

Additional information

no
D. Salmonella spp. in eggs and egg products

Monitoring system
 Sampling strategy
   As a member state, we implement EU legislation.
   The sampling strategy is according to Reg. 2073/2005/EC.

Frequency of the sampling
 Eggs at egg packing centres (foodstuff based approach)
   Once a month
 Eggs at retail
   Suspected batches are sampled
 Raw material for egg products (at production plant)
   Once a month
 Egg products (at production plant and at retail)
   Suspected batches are sampled

Type of specimen taken
 Eggs at egg packing centres (foodstuff based approach)
   Surface of egg shell
 Eggs at retail
   Surface of egg shell
 Raw material for egg products (at production plant)
   Mixture of yolk and white
 Egg products (at production plant and at retail)
   Mixture of yolk and white

Methods of sampling (description of sampling techniques)
 Eggs at egg packing centres (foodstuff based approach)
   under Reg. 2073/2005
 Eggs at retail
   under Reg. 2073/2005
 Raw material for egg products (at production plant)
   under Reg. 2073/2005
 Egg products (at production plant and at retail)
   under Reg. 2073/2005

Definition of positive finding
 Eggs at egg packing centres (foodstuff based approach)
   under Reg. 2073/2005
 Eggs at retail
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under Reg. 2073/2005

Raw material for egg products (at production plant)
under Reg. 2073/2005

Egg products (at production plant and at retail)
under Reg. 2073/2005

Diagnostic/analytical methods used
Eggs at egg packing centres (foodstuff based approach)

Eggs at retail

Raw material for egg products (at production plant)

Egg products (at production plant and at retail)

Control program/mechanisms
The control program/strategies in place
HACCP

Suggestions to the Community for the actions to be taken
no

Measures in case of the positive findings
high temperature treatment, cleaning and disinfection, communication

Notification system in place
RASFF

Additional information
no
E. Salmonella spp. in turkey meat and products thereof

Monitoring system
Sampling strategy
At slaughterhouse and cutting plant
As a member state, we implement EU legislation.

The sampling strategy is according to Reg. 2073/2005/EC.
At meat processing plant
under Reg. 2073/2005
At retail
under Reg. 2073/2005

Frequency of the sampling
At slaughterhouse and cutting plant
Every batch is sampled
At meat processing plant
Once a month
At retail
Suspected batches are sampled

Type of specimen taken
At slaughterhouse and cutting plant
Fresh meat
At meat processing plant
Meat preparations: ____
At retail
Meat products: ____

Methods of sampling (description of sampling techniques)
At slaughterhouse and cutting plant
under Reg. 2073/2005
At meat processing plant
under Reg. 2073/2005
At retail
under Reg. 2073/2005

Definition of positive finding
At slaughterhouse and cutting plant
under Reg. 2073/2005
At meat processing plant
under Reg. 2073/2005
Diagnostic/analytical methods used
At slaughterhouse and cutting plant
At meat processing plant
At retail

Control program/mechanisms
The control program/strategies in place
   no
Suggestions to the Community for the actions to be taken
   no
Measures in case of the positive findings or single cases
   high temperature treatment, cleaning and disinfection, communication
Notification system in place
   RASFF
Additional information
   no
## Table Salmonella in poultry meat and products thereof

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling strategy</th>
<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Salmonella</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Meat from broilers (Gallus gallus) - carcase - at slaughterhouse - Surveillance</td>
<td>Laboratory of RFSD of Varna; Vratsa; Shumen; Haskovo; Sofia - Grad; Gabrovo; Plovdiv; Sliven</td>
<td>Objective sampling</td>
<td>Official sampling</td>
<td>food sample &gt; neck skin</td>
<td>Slaughter batch</td>
<td>25g</td>
<td>1782</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2) Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance</td>
<td>Laboratory of RFSD of Varna; Shumen; Haskovo; Sofia - Grad; Gabrovo; Blagoevgrad</td>
<td>Objective sampling</td>
<td>Official sampling</td>
<td>food sample &gt; meat</td>
<td>Batch</td>
<td>25g</td>
<td>1636</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3) Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance</td>
<td>Laboratory of RFSD of Varna; Vratsa; Shumen; Haskovo; Sofia - Grad; Gabrovo; Sliven; Blagoevgrad</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample &gt; meat</td>
<td>Batch</td>
<td>25g</td>
<td>4293</td>
<td>7</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>4) Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance</td>
<td>Laboratory of RFSD of Sofia - Grad</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample &gt; meat</td>
<td>Batch</td>
<td>25g</td>
<td>215</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source of information</td>
<td>Sampling strategy</td>
<td>Sampler</td>
<td>Sample type</td>
<td>Sample Origin</td>
<td>Sampling unit</td>
<td>Sample weight</td>
<td>Units tested</td>
<td>Total units positive for Salmonella</td>
<td>S. Enteritidis</td>
<td>S. Typhimurium</td>
</tr>
<tr>
<td>-----------------------</td>
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<td>----------------</td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance</td>
<td>Objective sampling</td>
<td>Industry sampling</td>
<td>food sample &gt; meat</td>
<td>Batch</td>
<td>25g</td>
<td>1640</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample &gt; meat</td>
<td>Batch</td>
<td>25g</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance</td>
<td>Objective sampling</td>
<td>Industry sampling</td>
<td>food sample &gt; meat</td>
<td>Batch</td>
<td>25g</td>
<td>1911</td>
<td>23</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - Surveillance</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample &gt; meat</td>
<td>Batch</td>
<td>25g</td>
<td>210</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - at processing plant - Surveillance</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample &gt; meat</td>
<td>Batch</td>
<td>25g</td>
<td>609</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Meat from turkey - fresh - at processing plant - Surveillance</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample &gt; meat</td>
<td>Batch</td>
<td>25g</td>
<td>70</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
### Table Salmonella in poultry meat and products thereof

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling strategy</th>
<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Salmonella</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat from turkey - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance</td>
<td>Laboratory of RFSD of Vratsa</td>
<td>Official and industry sampling</td>
<td>food sample &gt; meat</td>
<td>Batch</td>
<td>25g</td>
<td>35</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Meat from duck - carcase - at slaughterhouse - Surveillance</td>
<td>Laboratory of RFSD of Shumen; Plovdiv</td>
<td>Official and industry sampling</td>
<td>food sample &gt; meat</td>
<td>Batch</td>
<td>25g</td>
<td>505</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Salmonella spp., unspecified**

- Meat from broilers (Gallus gallus) - carcase - at slaughterhouse - Surveillance
- Meat from broilers (Gallus gallus) - fresh - at processing plant - Surveillance
- Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at processing plant - Surveillance
- Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - at retail - Surveillance
- Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at processing plant - Surveillance
- Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance
## Table Salmonella in poultry meat and products thereof

<table>
<thead>
<tr>
<th>Sample Description</th>
<th>Salmonella spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance</td>
<td>7)</td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - meat products - raw but intended to be eaten cooked - at retail - Surveillance</td>
<td>8)</td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - at processing plant - Surveillance</td>
<td>9)</td>
</tr>
<tr>
<td>Meat from turkey - fresh - at processing plant - Surveillance</td>
<td>10)</td>
</tr>
<tr>
<td>Meat from turkey - meat products - raw but intended to be eaten cooked - at processing plant - Surveillance</td>
<td>11)</td>
</tr>
<tr>
<td>Meat from duck - carcase - at slaughterhouse - Surveillance</td>
<td>12)</td>
</tr>
</tbody>
</table>

**Comments:**

1) absence in 25 g
2) absence in 25 g
3) absence in 25 g
4) absence in 25 g
5) absence in 25 g
6) absence in 25 g
Table Salmonella in poultry meat and products thereof

Comments:

7) absence in 25g
8) absence in 25g
9) absence in 25g
10) absence in 25g
11) absence in 25g
12) absence in 25g
### Table Salmonella in milk and dairy products

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling strategy</th>
<th>Samplers</th>
<th>Sample type</th>
<th>Sample Origin</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Salmonella</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at retail - Surveillance</td>
<td>National Diagnostic Science-and-Research Veterinary Medical Institute (NDSRVMI)</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample &gt; milk</td>
<td>Single</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at retail - Surveillance</td>
<td>National Diagnostic Science-and-Research Veterinary Medical Institute (NDSRVMI)</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Single</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy products (excluding cheeses) - ice-cream - made from raw or low heat-treated milk - at retail - Surveillance</td>
<td>National Diagnostic Science-and-Research Veterinary Medical Institute (NDSRVMI)</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Single</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy products (excluding cheeses) - milk powder and whey powder - at retail - Surveillance</td>
<td>National Diagnostic Science-and-Research Veterinary Medical Institute (NDSRVMI)</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Single</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Table Salmonella in milk and dairy products**

<table>
<thead>
<tr>
<th>Salmonella spp., unspecified</th>
<th>Dairy products (excluding cheeses) - butter - made from raw or low heat-treated milk - at retail - Surveillance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at retail - Surveillance</td>
</tr>
<tr>
<td></td>
<td>Dairy products (excluding cheeses) - ice-cream - made from raw or low heat-treated milk - at retail - Surveillance</td>
</tr>
<tr>
<td></td>
<td>Dairy products (excluding cheeses) - milk powder and whey powder - at retail - Surveillance</td>
</tr>
<tr>
<td>Source of information</td>
<td>Sampling strategy</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>1) Laboratory of RFSD of Varna; Vratsa; Shumen; Haskovo; Sofia - Grad; Gabrovo; Plovdiv; Blagoevgrad; Sofia - Grad; Gabrovo; Plovdiv; Blagoevgrad;</td>
<td>Objective sampling</td>
</tr>
<tr>
<td>2) National Diagnostic Science-and-Research Veterinary Medical Institute (NDSRVMI); Laboratory of Sofia - Grad; Sliven</td>
<td>Objective sampling</td>
</tr>
<tr>
<td>3) Laboratory of RFSD of Varna; Haskovo; Sofia - Grad; Gabrovo; Plovdiv; Blagoevgrad;</td>
<td>Objective sampling</td>
</tr>
<tr>
<td>4) Laboratory of RFSD of Varna</td>
<td>Objective sampling</td>
</tr>
</tbody>
</table>
### Table Salmonella in other food

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling strategy</th>
<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for Salmonella</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fishery products, unspecified - cooked - at processing plant - Surveillance 9)</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>25g</td>
<td>505</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fishery products, unspecified - cooked - at retail - Surveillance 6)</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>25g</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish - smoked - at processing plant - Surveillance 7)</td>
<td>Objective sampling</td>
<td>Official sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>25g</td>
<td>65</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molluscan shellfish - cooked - at processing plant - Surveillance 8)</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>25g</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live bivalve molluscs - unspecified - at retail - Surveillance 9)</td>
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### Table Salmonella in other food

**Comments:**

1. absence in 25g
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3. absence in 25g
4. absence in 25g
5. absence in 25g
6. absence in 25g
7. absence in 25g
8. absence in 25g
9. absence in 25g
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12. absence in 25g
13. absence in 25g
### Table Salmonella in red meat and products thereof

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<th>S. Typhimurium</th>
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### Table Salmonella in red meat and products thereof

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### Table Salmonella in red meat and products thereof

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<td>16) absence in 25g</td>
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Table Salmonella in red meat and products thereof

<table>
<thead>
<tr>
<th>Salmonella spp., unspecified</th>
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<tbody>
<tr>
<td>Meat from horse - fresh - at processing plant - Surveillance</td>
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Salmonella
### Table Salmonella in red meat and products thereof

**Comments:**

- **17)** absence in 25g
- **18)** absence in 25g
- **19)** absence in 25g
- **20)** absence in 25g
- **21)** absence in 25g
- **22)** absence in 25g
- **23)** absence in 25g
- **24)** absence in 25g
- **25)** absence in 25g
- **26)** absence in 25g
2.1.4 Salmonella in animals

A. Salmonella spp. in Gallus Gallus - breeding flocks

Monitoring system
Sampling strategy
Breeding flocks (separate elite, grand parent and parent flocks when necessary)
In accordance with Reg. 1003/2005

Frequency of the sampling
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks
Every flock is sampled
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period
Other: 1-st, 2-nd, 4-th, 8-th week, 2 weeks before moving
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period
Every 15-th week; 2 weeks before slaughtering

Type of specimen taken
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks
Internal linings of delivery boxes
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period
Socks/ boot swabs
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period
Faeces

Methods of sampling (description of sampling techniques)
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks
under Reg. 213/2009
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period
under Reg. 213/2009
Breeding flocks: Production period
under Reg. 213/2009

Case definition
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks
under Reg. 213/2009
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period
under Reg. 213/2009
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period
under Reg. 213/2009
Bulgaria - 2011 Report on trends and sources of zoonoses

Diagnostic/analytical methods used
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period

Vaccination policy
Breeding flocks (separate elite, grand parent and parent flocks when necessary)
   have vaccination policy on place

Other preventive measures than vaccination in place
Breeding flocks (separate elite, grand parent and parent flocks when necessary)
   biosecurity, outbreak eradication

Control program/mechanisms
The control program/strategies in place
Breeding flocks (separate elite, grand parent and parent flocks when necessary)
   BABH have annual control program

Recent actions taken to control the zoonoses
   sampling, culling in positive cases, cleaning and disinfection

Suggestions to the Community for the actions to be taken
   no

Measures in case of the positive findings or single cases
Breeding flocks (separate elite, grand parent and parent flocks when necessary)
   culling in positive cases, cleaning and disinfection

Results of the investigation
   1 positive case for 2011, unknown source
B. Salmonella spp. in Gallus Gallus - broiler flocks

Monitoring system

Sampling strategy
Broiler flocks
  self control: 2-3 weeks before slaughtering;
  official control: 1 sample for the period

Frequency of the sampling
Broiler flocks: Rearing period
  Every flock is sampled

Broiler flocks: Before slaughter at farm
  Every flock is sampled

Type of specimen taken
Broiler flocks: Rearing period
  Dust

Broiler flocks: Before slaughter at farm
  Socks/ boot swabs

Methods of sampling (description of sampling techniques)
Broiler flocks: Rearing period
  Reg. 200/2012

Broiler flocks: Before slaughter at farm
  Reg. 200/2012

Broiler flocks: At slaughter (flock based approach)
  Reg. 200/2012

Case definition
Broiler flocks: Rearing period
  Reg. 2160/2003

Broiler flocks: Before slaughter at farm
  Reg. 2160/2003

Broiler flocks: At slaughter (flock based approach)
  Reg. 2160/2003

Diagnostic/analytical methods used
Broiler flocks: Rearing period

Broiler flocks: Before slaughter at farm

Broiler flocks: At slaughter (flock based approach)
Bulgaria - 2011 Report on trends and sources of zoonoses

Vaccination policy

Broiler flocks
no vaccination

Other preventive measures than vaccination in place

Broiler flocks
biosecurity

Control program/mechanisms

The control program/strategies in place

Broiler flocks
BABH have control program in place

Recent actions taken to control the zoonoses
sammping, culling in positive cases, cleaning and disinfection

Suggestions to the Community for the actions to be taken
no

Measures in case of the positive findings or single cases

Broiler flocks: Rearing period
cleaning and disinfection after slaughtering

Broiler flocks: Before slaughter at farm
cleaning and disinfection after slaughtering

Broiler flocks: At slaughter (flock based approach)
meat sampling, heat treating in positive cases, cleaning and disinfection

Additional information
no
C. Salmonella spp. in Gallus Gallus - flocks of laying hens

Monitoring system

Frequency of the sampling
- Laying hens: Day-old chicks
  - Every flock is sampled
- Laying hens: Rearing period
  - Every flock is sampled
- Laying hens: Production period
  - Every 15-th week
- Laying hens: Before slaughter at farm
  - 2 weeks prior to slaughter
- Eggs at packing centre (flock based approach)
  - Once a month

Type of specimen taken
- Laying hens: Day-old chicks
  - Faeces
- Laying hens: Rearing period
  - Faeces
- Laying hens: Production period
  - Faeces
- Laying hens: Before slaughter at farm
  - Faeces
- Eggs at packing centre (flock based approach)
  - Eggs for human consumption

Methods of sampling (description of sampling techniques)
- Laying hens: Rearing period
  - Reg. 517/2011
- Laying hens: Production period
  - Reg. 517/2011
- Laying hens: Before slaughter at farm
  - Reg. 517/2011
- Laying hens: At slaughter
  - Reg. 517/2011
- Eggs at packing centre (flock based approach)
  - Reg. 517/2011

Case definition
Bulgaria - 2011 Report on trends and sources of zoonoses

Laying hens: Rearing period
Reg. 2160/2003

Laying hens: Production period
Reg. 2160/2003

Laying hens: Before slaughter at farm
Reg. 2160/2003

Laying hens: At slaughter
Reg. 2160/2003

Diagnostic/analytical methods used
Laying hens: Rearing period

Laying hens: Production period

Laying hens: Before slaughter at farm

Laying hens: At slaughter

Eggs at packing centre (flock based approach)

Other preventive measures than vaccination in place
Laying hens flocks
   cleaning and disinfection after slaughtering

Control program/mechanisms
The control program/strategies in place
Laying hens flocks
   BABH have 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
Laying hens flocks
   confirmation sampling, tracing back 10-15 days, movements ban for birts and eggs, slaughtering or culling of birts, meat heat treating in positive cases, destroying of eggs, cleaning and disinfection after slaughtering

Additional information
   no
D. 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.
E. Salmonella spp. in turkey - breeding flocks and meat production flocks

Monitoring system

Sampling strategy

Breeding flocks (separate elite, grand parent and parent flocks when necessary)
- selfcontrol: one day, 4-th week, 2 weeks prior movement or start laying, later every 16 weeks, 3 weeks prior slaughtering;
- off. control: one sampling

Meat production flocks
- selfcontrol: one day, 4-th week, 2 weeks prior movement or start laying, later every 16 weeks, 3 weeks prior slaughtering;
- off. control: one sampling

Type of specimen taken

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

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

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

Meat production flocks: Day-old chicks
- Faeces

Meat production flocks: Rearing period
- Faeces

Meat production flocks: Before slaughter at farm
- Faeces

Methods of sampling (description of sampling techniques)

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks
- Regulation (EC) No 584/2008

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period
- Regulation (EC) No 584/2008

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period
- Regulation (EC) No 584/2008

Meat production flocks: Day-old chicks
- Regulation (EC) No 584/2008

Meat production flocks: Rearing period
- Regulation (EC) No 584/2008

Meat production flocks: Before slaughter at farm
Bulgaria - 2011 Report on trends and sources of zoonoses

Regulation (EC) No 584/2008

Meat production flocks: At slaughter (flock based approach)

n/a

Case definition
Reg. 2160/2003

Monitoring system

Case definition
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Rearing period
Reg. 2160/2003

Breeding flocks (separate elite, grand parent and parent flocks when necessary): Production period
Reg. 2160/2003

Meat production flocks: Day-old chicks
Reg. 2160/2003

Meat production flocks: Rearing period
Reg. 2160/2003

Meat production flocks: Before slaughter at farm
Reg. 2160/2003

Meat production flocks: At slaughter (flock based approach)
Reg. 2160/2003

Diagnostic/analytical methods used
Breeding flocks (separate elite, grand parent and parent flocks when necessary): Day-old chicks

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

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

Meat production flocks: Day-old chicks

Meat production flocks: Rearing period

Meat production flocks: Before slaughter at farm

Meat production flocks: At slaughter (flock based approach)

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

no
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Meat production flocks
    no

Other preventive measures than vaccination in place
    Breeding flocks (separate elite, grand parent and parent flocks when necessary)
        biosecurity

Meat production flocks
    biosecurity

Control program/mechanisms
    The control program/strategies in place
        Breeding flocks (separate elite, grand parent and parent flocks when necessary)
            BABH have control program in place
    Meat production flocks
        BABH have control program in place

Recent actions taken to control the zoonoses
    sampling, culling in positive cases, cleaning and disinfection

Suggestions to the Community for the actions to be taken
    no

Measures in case of the positive findings or single cases
    sampling, culling in positive cases, cleaning and disinfection

Additional information
    no
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<th>Source of information</th>
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<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</th>
<th>Target Verification</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Salmonella</th>
<th>S. Enteritidis</th>
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<tr>
<td>Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes</td>
<td>Laboratory of RFSD</td>
<td>Objective sampling</td>
<td>Official sampling</td>
<td>environmental sample &gt; boot swabs</td>
<td>yes</td>
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<th>S. Typhimurium</th>
<th>S. Virchow</th>
<th>S. 1,4,[5],12:i:</th>
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Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes
### Table Salmonella in other birds

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<th>Source of information</th>
<th>Sampling strategy</th>
<th>Sampler</th>
<th>Sample type</th>
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<th>Units tested</th>
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<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
<th>Salmonella spp., unspecified</th>
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<tbody>
<tr>
<td>Partridges - farmed - at farm - Monitoring</td>
<td>Laboratory of RFSD of Shumen</td>
<td>Objective sampling</td>
<td>Official sampling</td>
<td>environmental sample</td>
<td>Single</td>
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### Table Salmonella in other animals

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<th>Sample type</th>
<th>Sample Origin</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Salmonella</th>
<th>S. Enteritidis</th>
<th>S. Typhimurium</th>
<th>S. 1,4,[5],12:i:-</th>
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<tr>
<td>Cattle (bovine animals) - calves (under 1 year) - at farm - Monitoring</td>
<td>Laboratory of RFSD of Shumen</td>
<td>Objective sampling</td>
<td>Industry sampling</td>
<td>animal sample &gt; organ/tissue</td>
<td>Batch</td>
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<td>Cattle (bovine animals) - calves (under 1 year) - at slaughterhouse - Monitoring</td>
<td>Laboratory of RFSD of Shumen</td>
<td>Objective sampling</td>
<td>Industry sampling</td>
<td>animal sample &gt; organ/tissue</td>
<td>Batch</td>
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<td>Cattle (bovine animals) - adult cattle over 2 years - at farm - Monitoring</td>
<td>Laboratory of RFSD of Shumen</td>
<td>Objective sampling</td>
<td>Industry sampling</td>
<td>animal sample &gt; organ/tissue</td>
<td>Batch</td>
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<td>Sheep - at farm - Monitoring</td>
<td>Laboratory of Shumen</td>
<td>Objective sampling</td>
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<td>Laboratory of RFSD of Shumen</td>
<td>Objective sampling</td>
<td>Industry sampling</td>
<td>animal sample &gt; organ/tissue</td>
<td>Batch</td>
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<td>Pigs - breeding animals - at farm - Monitoring</td>
<td>Laboratory of RFSD of Shumen</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>animal sample &gt; organ/tissue</td>
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<td>Pigs - breeding animals - at slaughterhouse - Monitoring</td>
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<td>Objective sampling</td>
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<tr>
<td>Pigs - fattening pigs - at farm - Monitoring</td>
<td>Laboratory of RFSD of Shumen</td>
<td>Objective sampling</td>
<td>Official sampling</td>
<td>animal sample &gt; lymph nodes</td>
<td>Batch</td>
<td>170</td>
<td>19</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Salmonella spp., unspecified

Cattle (bovine animals) - calves (under 1 year) - at farm - Monitoring
<table>
<thead>
<tr>
<th>Animal Type</th>
<th>Location</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (bovine animals) - calves (under 1 year)</td>
<td>at slaughterhouse</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Cattle (bovine animals) - adult cattle over 2 years</td>
<td>at farm</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Sheep</td>
<td>at farm</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Goats</td>
<td>at farm</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Pigs - breeding animals</td>
<td>at farm</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Pigs - breeding animals at slaughterhouse</td>
<td>Monitoring</td>
<td></td>
</tr>
<tr>
<td>Pigs - fattening pigs</td>
<td>at farm</td>
<td>Monitoring</td>
</tr>
</tbody>
</table>

Salmonella spp., unspecified

14
### Table Salmonella in other poultry

<table>
<thead>
<tr>
<th>No of flocks under control programme</th>
<th>Source of information</th>
<th>Sampling strategy</th>
<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</th>
<th>Target Verification</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Salmonella</th>
<th>S. Enteritidis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallus gallus (fowl) - laying hens - day-old chicks - Control and eradication programmes</td>
<td>Laboratory of RFSD of Shumen</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>environmenta l sample</td>
<td>Batch</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes</td>
<td>Laboratory of RFSD of Shumen; Blagoevgrad</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>environmenta l sample</td>
<td>Batch</td>
<td>39</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes</td>
<td>Laboratory of Shumen; Blagoevgrad</td>
<td>Census</td>
<td>Official and industry sampling</td>
<td>environmenta l sample</td>
<td>yes</td>
<td>Batch</td>
<td>228</td>
<td>15</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes</td>
<td>Laboratory of RFSD of Shumen; Blagoevgrad</td>
<td>Census</td>
<td>Official and industry sampling</td>
<td>environmenta l sample</td>
<td>yes</td>
<td>Flock</td>
<td>513</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes</td>
<td>Laboratory of RFSD of Shumen</td>
<td>Census</td>
<td>Official and industry sampling</td>
<td>environmenta l sample</td>
<td>yes</td>
<td>Flock</td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes</td>
<td>Laboratory of RFSD of Shumen</td>
<td>Census</td>
<td>Official and industry sampling</td>
<td>environmenta l sample</td>
<td>yes</td>
<td>Flock</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birds - wild - game birds, farmed - at farm - Monitoring</td>
<td>Laboratory of RFSD of Shumen</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>environmenta l sample</td>
<td>Flock</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S. Typhimurium</th>
<th>S. 1,4,[5],12:i: -</th>
<th>Salmonella spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallus gallus (fowl) - laying hens - day-old chicks - Control and eradication programmes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - laying hens - during rearing period - Control and eradication programmes</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
### Table Salmonella in other poultry

<table>
<thead>
<tr>
<th></th>
<th>S. Typhimurium</th>
<th>S. 1,4,[5],12:i:</th>
<th>Salmonella spp., unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes</td>
<td></td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birds - wild - game birds, farmed - at farm - Monitoring</td>
<td>¹)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

¹) partridges
2.1.5 Salmonella serovars and phagetype distribution

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

<table>
<thead>
<tr>
<th>Serovar</th>
<th>Sources of isolates</th>
<th>Meat from bovine animals</th>
<th>Meat from pig</th>
<th>Meat from broilers (Gallus gallus)</th>
<th>Meat from other poultry species</th>
<th>Other products of animal origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of isolates in the laboratory</td>
<td>3</td>
<td>18</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of isolates serotyped</td>
<td>0</td>
<td>3</td>
<td>33</td>
<td>18</td>
<td>15</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Serovar</th>
<th>Number of isolates per serovar</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. Brandenburg</td>
<td>2</td>
</tr>
<tr>
<td>S. Bredeney</td>
<td>3</td>
</tr>
<tr>
<td>S. Derby</td>
<td>3 2 10</td>
</tr>
<tr>
<td>S. Enteritidis</td>
<td>2 2 1 5</td>
</tr>
<tr>
<td>S. Hadar</td>
<td>1 1 1 1</td>
</tr>
<tr>
<td>S. Infantis</td>
<td>3 3 10</td>
</tr>
</tbody>
</table>
## Table Salmonella serovars in food

<table>
<thead>
<tr>
<th>Serovar</th>
<th>Sources of isolates</th>
<th>Meas from bovine animals</th>
<th>Meas from pig</th>
<th>Meas from broilers (Gallus gallus)</th>
<th>Meas from other poultry species</th>
<th>Other products of animal origin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monitoring</td>
<td>Surveillance</td>
<td>Monitoring</td>
<td>Surveillance</td>
<td>Monitoring</td>
<td>Surveillance</td>
</tr>
<tr>
<td>S. Kottbus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of isolates in the laboratory</td>
<td>3</td>
<td>18</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of isolates serotyped</td>
<td>0</td>
<td>3</td>
<td>33</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>S. Livingstone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S. Thompson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S. Typhimurium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of isolates per serovar:

- **S. Kottbus**: 3 (Monitoring), 2 (Surveillance)
- **S. Livingstone**: 1 (Monitoring)
- **S. Thompson**: 1 (Monitoring)
- **S. Typhimurium**: 4 (Monitoring), 1 (Surveillance)
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
    NDSRVM - National Diagnostic Scientific Research Veterinary Medicine Institute,

Control program/mechanisms
  The control program/strategies in place
    no control program is drafted
  Recent actions taken to control the zoonoses
    no control program is drafted
  Suggestions to the Community for the actions to be taken
    no

Measures in case of the positive findings or single cases
  The actions are in accordance with the Community legislation

Notification system in place
  WAHIS

Results of the investigation
  no data available

National evaluation of the recent situation, the trends and sources of infection
  n/a
Bulgaria - 2011 Report on trends and sources of zoonoses

Relevance of the findings in animals to findings in foodstuffs and to human cases (as a source of infection)
   no data available

Additional information
   no
Bulgaria - 2011 Report on trends and sources of zoonoses

B. Antimicrobial resistance in Salmonella in foodstuff derived from cattle

Sampling strategy used in monitoring
  Frequency of the sampling
    no data available
  Type of specimen taken
    no data available

Methods of sampling (description of sampling techniques)
  no data available

Procedures for the selection of isolates for antimicrobial testing
  no data available

Methods used for collecting data
  no data available

Laboratory methodology used for identification of the microbial isolates
  no data available

Laboratory used for detection for resistance
  Antimicrobials included in monitoring
    no data available
  Cut-off values used in testing
    no data available

Preventive measures in place
  no data available

Control program/mechanisms
  The control program/strategies in place
    no data available
  Recent actions taken to control the zoonoses
    no data available
  Suggestions to the Community for the actions to be taken
    no data available

Measures in case of the positive findings or single cases
  no data available

Notification system in place
  WAHIS

Results of the investigation
  no data available

National evaluation of the recent situation, the trends and sources of infection
  no data available
Relevance of the findings in animals to findings in foodstuffs and to human cases (as a source of infection)
   no data available

Additional information
   no
C. Antimicrobial resistance in Salmonella in foodstuff derived from pigs

Sampling strategy used in monitoring
   Frequency of the sampling
     The frequency of sampling is in accordance with the Regulation 2073/2005/EC
   Methods of sampling (description of sampling techniques)
     The methods of 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 programmed for slaughter pigs. the results were reported to the EC
   Recent actions taken to control the zoonoses
     with regard to the Community legislation
   Suggestions to the Community for the actions to be taken
     no

Measures in case of the positive findings or single cases
   The measures in case of the positive findings are in accordance 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 (as a source of infection)
   n/a

Additional information
   no
D. Antimicrobial resistance in Salmonella in foodstuff derived from poultry

Sampling strategy used in monitoring

Frequency of the sampling

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

Type of specimen taken

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

Methods of sampling (description of sampling techniques)

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

Laboratory used for detection for resistance

Antimicrobials included in monitoring

- Erithromycin
- Ciprofolaxacin
- tetracyclin
- Streptomycin
- Gentamycin

Preventive measures in place

In accordance with the EU legislation

Control program/mechanisms

The control program/strategies in place

no

Recent actions taken to control the zoonoses

in accordance with the legislation

Suggestions to the Community for the actions to be taken

no

Measures in case of the positive findings or single cases

the measures are with regard to the Community legislation

Notification system in place

WAHIS

Results of the investigation

n/a

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

n/a

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

n/a

Additional information
no
E. Antimicrobial resistance in Salmonella in pigs

Sampling strategy used in monitoring

Frequency of the sampling

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

The total number of pigs and slaughtered animals from which samples will be taken in each slaughterhouse included in the survey is to be forecasted by multiplying the number of the samples (for example 2400) by the ratio of the processed fattening pigs from the preceding year. For example, if the slaughterhouse has processed 25% slaughtered pigs from the selected slaughterhouses those that represent at least 80% of all slaughtered fattening pigs in the Member State, then (2400 × 0.25) means 600 pigs from samples should be taken. This number has to be distributed evenly so that 50% are examined each month for a period of 12 months.

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

Type of specimen taken

General sampling

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

n/a

Methods used for collecting data

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

Laboratory methodology used for identification of the microbial isolates

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

The method of dilution in agar is accepted, as well as the broth dilution method. Results shall be reported as quantitative 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).
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).

Cut-off values used in testing
n/a

Preventive measures in place
in accordance with the EU legislation

Control program/mechanisms
The control program/strategies in place
in 2007 was implemented the baseline survey for slaughter pigs

Recent actions taken to control the zoonoses
in accordance with the EU legislation

Suggestions to the Community for the actions to be taken
no

Measures in case of the positive findings or single cases
in accordance with the EU legislation

Notification system in place
WAHIS

Results of the investigation
The results were reported to EU

National evaluation of the recent situation, the trends and sources of infection
n/a

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

no
F. Antimicrobial resistance in Salmonella in poultry

Sampling strategy used in monitoring

Frequency of the sampling

Sampling frame
- within three weeks before the birds are moved to the slaughterhouse;
- sampling shall include each year at least one flock of broilers on 10 % of the holdings with more than 5000 birds.

Methods of sampling (description of sampling techniques)

boot swabs

Procedures for the selection of isolates for antimicrobial testing

n/a

Laboratory used for detection for resistance

Antimicrobials included in monitoring

- Erythromycin
- Ciprofloxacin
- Tetracycline
- Streptomycin
- Gentamicin

Preventive measures in place

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

Control program/mechanisms

The control program/strategies in place

1. Antimicrobials shall not be used as a specific method to control Salmonella in poultry.
2. Antimicrobials may be used in the following exceptional circumstances:
   - poultry presenting salmonella infection with clinical signs in a way likely to cause undue suffering to the animals;
   - the infected flocks treated with antimicrobials shall still be considered infected with salmonella;
   - authorisation given by the NVS on a case-by-case basis for purposes other than salmonella control in a flock suspect of salmonella infection, in particular following the epidemiological investigation of a food-borne outbreak or the detection of salmonella at the holding;
3. The use of antimicrobials shall be subject to supervision of and reporting to the NVS. This use shall be based wherever possible on the results of bacteriological sampling and of susceptibility testing.

Suggestions to the Community for the actions to be taken

no

Measures in case of the positive findings or single cases

Control measures and notification of positive results

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

In case of suspicion of infection the NVS and the relevant authorities:
When the broilers are confirmed for the presence of Salmonella enteritidis or Salmonella typhimurium:

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

Results of the investigation
n/a

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

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

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

n/a

Additional information

no
<table>
<thead>
<tr>
<th>Test Method Used</th>
<th>Standard methods used for testing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration (microg/ml)</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
</tr>
<tr>
<td>Aminoglycosides</td>
<td>Gentamicin</td>
</tr>
<tr>
<td></td>
<td>Streptomycin</td>
</tr>
<tr>
<td>Amphenicols</td>
<td>Chloramphenicol</td>
</tr>
<tr>
<td>Cephalosporins</td>
<td>Cefotaxime</td>
</tr>
<tr>
<td>Fluoroquinolones</td>
<td>Ciprofloxacin</td>
</tr>
<tr>
<td>Penicillins</td>
<td>Ampicillin</td>
</tr>
<tr>
<td>Quinolones</td>
<td>Nalidixic acid</td>
</tr>
<tr>
<td>Sulfonamides</td>
<td>Sulfonamides</td>
</tr>
<tr>
<td>Tetracyclines</td>
<td>Tetracycline</td>
</tr>
<tr>
<td>Trimethoprim</td>
<td>Trimethoprim</td>
</tr>
</tbody>
</table>
### Table Cut-off values for antibiotic resistance testing of Salmonella in Feed

<table>
<thead>
<tr>
<th>Test Method Used</th>
<th>Standard methods used for testing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration (microg/ml)</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
</tr>
<tr>
<td>Aminoglycosides</td>
<td>Gentamicin</td>
</tr>
<tr>
<td></td>
<td>Streptomycin</td>
</tr>
<tr>
<td>Amphenicols</td>
<td>Chloramphenicol</td>
</tr>
<tr>
<td>Cephalosporins</td>
<td>Cefotaxime</td>
</tr>
<tr>
<td>Fluoroquinolones</td>
<td>Ciprofloxacin</td>
</tr>
<tr>
<td>Penicillins</td>
<td>Ampicillin</td>
</tr>
<tr>
<td>Quinolones</td>
<td>Nalidixic acid</td>
</tr>
<tr>
<td>Sulfonamides</td>
<td>Sulfonamides</td>
</tr>
<tr>
<td>Tetracyclines</td>
<td>Tetracycline</td>
</tr>
<tr>
<td>Trimethoprim</td>
<td>Trimethoprim</td>
</tr>
<tr>
<td>Test Method Used</td>
<td>Standard methods used for testing</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td></td>
<td>Concentration (microg/ml)</td>
</tr>
<tr>
<td></td>
<td>Zone diameter (mm)</td>
</tr>
<tr>
<td><strong>Gentamicin</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Streptomycin</strong></td>
<td>32</td>
</tr>
<tr>
<td><strong>Chloramphenicol</strong></td>
<td>16</td>
</tr>
<tr>
<td><strong>Cefotaxime</strong></td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Ciprofloxacin</strong></td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Ampicillin</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>Nalidixic acid</strong></td>
<td>16</td>
</tr>
<tr>
<td><strong>Sulfonamides</strong></td>
<td>256</td>
</tr>
<tr>
<td><strong>Tetracycline</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>Trimethoprim</strong></td>
<td>2</td>
</tr>
</tbody>
</table>
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
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
Bulgaria - 2011 Report on trends and sources of zoonoses

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

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

Sampling strategy used in monitoring

Frequency of the sampling

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

Sampling strategy used in monitoring

Frequency of the sampling

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

Sampling strategy used in monitoring
Frequency of the sampling
no data available
F. Antimicrobial resistance in Campylobacter jejuni and coli in poultry

Sampling strategy used in monitoring
Frequency of the sampling
   no data available
### Table Cut-off values used for antimicrobial susceptibility testing of C. coli in Animals

<table>
<thead>
<tr>
<th>Test Method Used</th>
<th>Standard methods used for testing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration (microg/ml)</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
</tr>
<tr>
<td>Aminoglycosides</td>
<td>Gentamicin</td>
</tr>
<tr>
<td></td>
<td>Streptomycin</td>
</tr>
<tr>
<td>Fluoroquinolones</td>
<td>Ciprofloxacin</td>
</tr>
<tr>
<td>Macrolides</td>
<td>Erythromycin</td>
</tr>
<tr>
<td>Tetracyclines</td>
<td>Tetracycline</td>
</tr>
</tbody>
</table>
### Table Cut-off values used for antimicrobial susceptibility testing of C. coli in Feed

<table>
<thead>
<tr>
<th>Test Method Used</th>
<th>Standard methods used for testing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration (microg/ml)</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
</tr>
<tr>
<td>Aminoglycosides</td>
<td>Gentamicin</td>
</tr>
<tr>
<td></td>
<td>Streptomycin</td>
</tr>
<tr>
<td>Fluoroquinolones</td>
<td>Ciprofloxacin</td>
</tr>
<tr>
<td>Macrolides</td>
<td>Erythromycin</td>
</tr>
<tr>
<td>Tetracyclines</td>
<td>Tetracycline</td>
</tr>
</tbody>
</table>
Table Cut-off values used for antimicrobial susceptibility testing of C. coli in Food

<table>
<thead>
<tr>
<th>Test Method Used</th>
<th>Standard methods used for testing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Concentration (microg/ml)</th>
<th>Zone diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard</td>
<td>Resistant &gt;</td>
</tr>
<tr>
<td>Aminoglycosides</td>
<td>Gentamicin</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Streptomycin</td>
<td>4</td>
</tr>
<tr>
<td>Fluoroquinolones</td>
<td>Ciprofloxacin</td>
<td>1</td>
</tr>
<tr>
<td>Macrolides</td>
<td>Erythromycin</td>
<td>16</td>
</tr>
<tr>
<td>Tetracyclines</td>
<td>Tetracycline</td>
<td>2</td>
</tr>
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</table>
### Table Cut-off values used for antimicrobial susceptibility testing of C. jejuni in Animals

<table>
<thead>
<tr>
<th>Test Method Used</th>
<th>Standard methods used for testing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration (microg/ml)</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Aminoglycosides</strong></td>
<td>Gentamicin</td>
</tr>
<tr>
<td></td>
<td>Streptomycin</td>
</tr>
<tr>
<td><strong>Fluoroquinolones</strong></td>
<td>Ciprofloxacin</td>
</tr>
<tr>
<td><strong>Macrolides</strong></td>
<td>Erythromycin</td>
</tr>
<tr>
<td><strong>Tetracyclines</strong></td>
<td>Tetracycline</td>
</tr>
</tbody>
</table>
### Table Cut-off values used for antimicrobial susceptibility testing of C. jejuni in Feed

<table>
<thead>
<tr>
<th>Test Method Used</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration (microg/ml)</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Aminoglycosides</strong></td>
<td>Gentamicin</td>
</tr>
<tr>
<td></td>
<td>Streptomycin</td>
</tr>
<tr>
<td><strong>Fluoroquinolones</strong></td>
<td>Ciprofloxacin</td>
</tr>
<tr>
<td><strong>Macrolides</strong></td>
<td>Erythromycin</td>
</tr>
<tr>
<td><strong>Tetracyclines</strong></td>
<td>Tetracycline</td>
</tr>
</tbody>
</table>
Table Cut-off values used for antimicrobial susceptibility testing of C. jejuni in Food

<table>
<thead>
<tr>
<th>Test Method Used</th>
<th>Standard methods used for testing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Concentration (microg/ml)</th>
<th>Zone diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard Resistant &gt;</td>
<td>Resistant &lt;=</td>
</tr>
<tr>
<td>Aminoglycosides</td>
<td>Gentamicin</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Streptomycin</td>
<td>2</td>
</tr>
<tr>
<td>Fluoroquinolones</td>
<td>Ciprofloxacin</td>
<td>1</td>
</tr>
<tr>
<td>Macrolides</td>
<td>Erythromycin</td>
<td>4</td>
</tr>
<tr>
<td>Tetracyclines</td>
<td>Tetracycline</td>
<td>2</td>
</tr>
</tbody>
</table>
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 animal 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 strategy</th>
<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</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>
</tr>
</thead>
<tbody>
<tr>
<td>Milk, cows' - pasteurised milk - at processing plant - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample &gt; milk</td>
<td>Batch</td>
<td>25g</td>
<td>105</td>
<td>2</td>
<td>105</td>
<td>2</td>
</tr>
<tr>
<td>Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>25g</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>25g</td>
<td>115</td>
<td>115</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>25g</td>
<td>76</td>
<td>76</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample &gt; milk</td>
<td>Batch</td>
<td>25g</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Dairy products (excluding cheeses) - butter - made from pasteurised milk - at retail - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>25g</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Dairy products (excluding cheeses) - cream - made from pasteurised milk - at retail - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>25g</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at retail - domestic production - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>1g</td>
<td>131</td>
<td>131</td>
<td>131</td>
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</tr>
</tbody>
</table>
### Table Listeria monocytogenes in milk and dairy products

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling strategy</th>
<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Units tested with detection method</th>
<th>Listeria monocytogenes presence in g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - domestic production - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>25g</td>
<td>20</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - domestic production - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>25g</td>
<td>9</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy products (excluding cheeses) - yoghurt - at processing plant - domestic production - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>1g</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<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>Milk, cows' - pasteurised milk - at processing plant - Surveillance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at processing plant - Surveillance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - Surveillance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheeses made from sheep's milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Table Listeria monocytogenes in milk and dairy products

<table>
<thead>
<tr>
<th>Dairy products (excluding cheeses) - butter - made from pasteurised milk - at retail - Surveillance</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 - made from pasteurised milk - at retail - Surveillance</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 - domestic production - Surveillance</td>
<td>131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy products (excluding cheeses) - ice-cream - made from pasteurised milk - at processing plant - domestic production - Surveillance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy products (excluding cheeses) - milk powder and whey powder - at processing plant - domestic production - Surveillance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy products (excluding cheeses) - yoghurt - at processing plant - domestic production - Surveillance</td>
<td>85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source of information</td>
<td>Sampling strategy</td>
<td>Sampler</td>
<td>Sample type</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------------</td>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
</tr>
<tr>
<td>Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
</tr>
<tr>
<td>Fish - smoked - at processing plant - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
</tr>
<tr>
<td>Crustaceans - unspecified - cooked - at processing plant - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
</tr>
<tr>
<td>Fish - smoked - cold-smoked - at processing plant - domestic production - Surveillance</td>
<td>NRL</td>
<td>Objective sampling</td>
<td>Official sampling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<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>Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Surveillance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat from pig - meat products - cooked, ready-to-eat - at retail - Surveillance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish - smoked - at processing plant - Surveillance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustaceans - unspecified - cooked - at processing plant - Surveillance</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Table Listeria monocytogenes in other foods
### Table Listeria monocytogenes in other foods

<table>
<thead>
<tr>
<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>Fish - smoked - cold-smoked - at processing plant - domestic production - Surveillance</td>
<td>65</td>
<td></td>
</tr>
</tbody>
</table>
## 2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

2.4.2 Escherichia coli, pathogenic in foodstuffs

### Table VT E. coli in food

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling strategy</th>
<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</th>
<th>Analytical Method</th>
<th>Sampling unit</th>
<th>Sample weight</th>
<th>Units tested</th>
<th>Total units positive for</th>
<th>Verotoxigenic E. coli (VTEC) - VTEC O157</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeds, sprouted - ready-to-eat - at processing plant - Surveillance</td>
<td>National Diagnostic Science-and- Research Veterinary Medical Institute (NDSRVMI)</td>
<td>Objective sampling</td>
<td>food sample</td>
<td>EU RL method_food_2. Rev.2 - 104:H4</td>
<td>Single</td>
<td>200g</td>
<td>13</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verotoxigenic E. coli (VTEC) - VTEC non- O157</td>
<td>Verotoxigenic E. coli (VTEC) - VTEC, unspecified</td>
<td>Seeds, sprouted - ready-to-eat - at processing plant - Surveillance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1 General evaluation of the national situation

A. Tuberculosis general evaluation

History of the disease and/or infection in the country
  ongoing epidemiological investigation
2.5.2 Mycobacterium in animals

A. Mycobacterium bovis in bovine animals

Status as officially free of bovine tuberculosis during the reporting year

The entire country free

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

Free regions

no

Additional information

In 2000 5 new outbreaks of bovine tuberculosis were registered - 3 in Dobrich Region, 1 in Kardzhali 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 Kardzhali Region and 1 in VelikoTarnovo 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 Leno, Plovdiv Region.
In 2006 there was no outbreak of bovine tuberculosis.
In 2007 there was no outbreak of bovine tuberculosis.
In 2011 was found one outbreak of bovine tuberculosis in Burgas region, Sredetz city.

Monitoring system

Sampling strategy

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

Description of the submitted programme:
-Testing of bovines in animal holdings over 42 days of age;
-Differential tuberculization 42 days later of all suspect and positive animals using bovine or poultry 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.

Frequency of the sampling

every time of diagnostic slaughter of positive or inconclusive reagents.

Methods of sampling (description of sampling techniques)

lings and lymph nodes in affected area
Case definition
inder directive 64/432

Diagnostic/analytical methods used
the laboratory examination for bovine tuberculosis shall be carried out in the Diagnostics Reference Laboratory for Tuberculosis at the National Diagnostic Science-and-Research Veterinary Medical Institute (NDSRVMI), Sofia

Vaccination policy
no - intradermal examinations with PPD 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 and poultry tuberculine;
-Examination after 45-60 days with double dose of tuberculine (0,2 ml);
-Detailed epizootic survey;
-Slaughter of inconclisive and positive bovines;
-Payment of compensations to the owners of compulsory slaughtered animals;
-Placing on the market of the products (only tepmerature processed meat)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 inconclisive and 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
Bulgaria - 2011 Report on trends and sources of zoonoses

WAHIS

National evaluation of the recent situation, the trends and sources of infection
ongoing epidemiological investigation

Relevance of the findings in animals to findings in foodstuffs and to human cases (as a source of infection)
no data available

Additional information
no
Bulgaria - 2011 Report on trends and sources of zoonoses

B. Mycobacterium bovis in farmed deer

Monitoring system

Sampling strategy

BG haven't monitoring strategy for farmed deers- here don't have farmed deers
### Table Bovine tuberculosis in countries and regions that do not receive Community co-financing for eradication programmes

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

<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 histopathological and bacteriological examination</th>
<th>Number of animals detected positive in bacteriological examination</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>
<td>Interval between routine tuberculin tests</td>
<td>Number of animals tested</td>
</tr>
<tr>
<td>Бургас</td>
<td>4349</td>
<td>27087</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>.02</td>
<td>once a year</td>
</tr>
<tr>
<td>България ←</td>
<td>93434</td>
<td>545814</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>once a year</td>
<td>500333</td>
</tr>
<tr>
<td>София</td>
<td>5600</td>
<td>13533</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>.02</td>
<td>once a year</td>
</tr>
<tr>
<td>Total :</td>
<td>103383</td>
<td>586434</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Comments:

1) rest (without Bourgas and Sofia)

2) N.A.
2.6 BRUCELLOSIS

2.6.1 General evaluation of the national situation

A. Brucellosis general evaluation

History of the disease and/or infection in the country

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

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

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 years they are as follows:

2000 â€“ 157 427 bovine animals;
2001 â€“ 126 836 bovine animals;
2002 â€“ 126 633 bovine animals;
2003 â€“ 359 770 bovine animals;
2004 â€“ 339 657 bovine animals;
Since 2005 the abortions of bovine animals are subject to mandatory notification and testing pursuant to the requirements of Directive 64/432, 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 are 96 bovine animals whereas all of them have had negative results for the presence of Brucella abortus. For 2011 tested cow with abortion are 6 and are negative for brucelosis.

National evaluation of the recent situation, the trends and sources of infection
Bulgaria don't have positive for brucelosis bovines.

For small ruminansts- eventual contact with animals from neithbouring countries.

Illegal import of ruminants from neighboring countries to Bulgaria

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

Recent actions taken to control the zoonoses
No

Suggestions to the Community for the actions to be taken
No

Additional information
no
2.6.2 Brucella in animals

A. Brucella abortus in bovine animals

Status as officially free of bovine brucellosis during the reporting year

The entire country free

Bulgaria is not recognized as officially free of bovine brucellosis

Free regions

Bulgaria is not recognized as officially free of bovine brucellosis

Additional information

no

Monitoring system

Sampling strategy

In Bulgaria the sampling 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 slaughtering of all bovine animals over 12 months of age and - Slaughtering of the animals that have shown a positive reaction.

- testing twice of all animals with abortion- after the abortion and 15-20 days after that.

- twice serological sampling of all bulls in insemination centres

- serological sampling of all imported from third countries animals.

Case definition

under directive 64/432

Diagnostic/analytical methods used

rose bengal, SAT, Complement fixation test and ELISA

Vaccination policy

No vaccination is carried out

Other preventive measures than vaccination in place

No

Control program/mechanisms

The control program/strategies in place

The PROGRAM was 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

Relevance of the findings in animals to findings in foodstuffs and to human cases (as a source of infection)
No data available

Additional information
No
Bulgaria - 2011 Report on trends and sources of zoonoses

B. Brucella melitensis in goats

Status as officially free of caprine brucellosis during the reporting year
The entire country free
The Republic of Bulgaria is not recognized as officially free country

Free regions
n/a

Monitoring system
Sampling strategy
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.

With regard to the State Prophylaxis Programme all small and large ruminants, and equines bred on the settlement with positive case have to be tested for Brucellosis.

Type of specimen taken
Organs/tissues: Blood samples; faetus and placenta

Methods of sampling (description of sampling techniques)
serological and bacteriological

Case definition
under directive

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
Bulgarian Food Safety Agency has taken all the measures in accordance with the Council Directive 91/68/namely:

ban of movement of the small, large ruminants and equidae to and out of the infected settlement;

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 confirmation;
Bulgaria - 2011 Report on trends and sources of zoonoses

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

Suggestions to the Community for the actions to be taken
no

Measures in case of the positive findings or single cases
epidemiological investigation

slaughtering of all positive animal;

testing of all susceptible animal in settlement. Retesting after 42 days until 2 negative results.

Notification system in place
WAHIS

National evaluation of the recent situation, the trends and sources of infection
Contact between Bulgarian ruminants and ruminants from neighboring countries

Illegal import of ruminants from neighboring countries to Bulgaria

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

Additional information
no
C. Brucella melitensis in sheep

Status as officially free of ovine brucellosis during the reporting year

The entire country free

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

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:

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

Type of specimen taken

Organs/tissues: blood, placenta, foetus

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 стратегies in place

only state profilactis program

Suggestions to the Community for the actions to be taken

No

Notification system in place

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

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

<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>България</td>
<td>213544</td>
<td>2147258</td>
<td>213544</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Total:</td>
<td>213544</td>
<td>2147258</td>
<td>213544</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

**Comments:**

1) N.A.
### Table Bovine 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 bovine</th>
<th>Officially free herds</th>
<th>Infected herds</th>
<th>Surveillence</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>България</td>
<td>103383</td>
<td>586434</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>103383</td>
<td>586434</td>
<td>0</td>
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</tr>
</tbody>
</table>

#### Comments:

1) N.A.
2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

A. Yersinia enterocolitica general evaluation

History of the disease and/or infection in the country
no data available

National evaluation of the recent situation, the trends and sources of infection
no data available

Relevance of the findings in animals, feedingstuffs and foodstuffs to human cases (as a source of infection)
no data available

Recent actions taken to control the zoonoses
no data available

Suggestions to the Community for the actions to be taken
no

Additional information
no
2.7.2 Yersiniosis in humans

A. Yersiniosis in humans

Reporting system in place for the human cases
no data available

Case definition
no data available

Diagnostic/analytical methods used
no data available

Notification system in place
no data available

History of the disease and/or infection in the country
no data available

Results of the investigation
no data available

National evaluation of the recent situation, the trends and sources of infection
no data available

Relevance as zoonotic disease
no data available

Additional information
no
2.7.3 Yersinia in animals

A. Yersinia enterocolitica in pigs

Monitoring system
Sampling strategy
Animals at farm
no monitoring system in place
Animals at slaughter (herd based approach)
no monitoring system in place

Methods of sampling (description of sampling techniques)
Animals at farm
no monitoring system in place
Animals at slaughter (herd based approach)
no monitoring system in place

Case definition
Animals at farm
no monitoring system in place
Animals at slaughter (herd based approach)
no monitoring system in place

Vaccination policy
no vaccination policy in place

Other preventive measures than vaccination in place
no preventive measures in place

Control program/mechanisms
The control program/strategies in place
no control program in place

Recent actions taken to control the zoonoses
no

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

Measures in case of the positive findings or single cases
no positive cases

Notification system in place
no

Results of the investigation
Bulgaria - 2011 Report on trends and sources of zoonoses

no investigation

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

no control program on place

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

no data available

Additional information

no
2.8 TRICHINELLOSIS

2.8.1 General evaluation of the national situation

A. Trichinellosis general evaluation

National evaluation of the recent situation, the trends and sources of infection
mandatory testing for all slaughtered pigs and aquine;
mandatory testing for all hunted boars (wild pigs), bears and badger.

Relevance of the findings in animals, feedingstuffs and foodstuffs to human cases (as a source of infection)
no data available.

Recent actions taken to control the zoonoses
mandatory testing for all slaughtered pigs and aquine;
mandatory testing for all hunted boars (wild pigs), bears and badger.

Suggestions to the Community for the actions to be taken
no

Additional information
no
2.8.2 Trichinellosis in humans

A. Trichinellosis in humans

Reporting system in place for the human cases
   no data available

Case definition
   no data available

Diagnostic/analytical methods used
   no data available

Notification system in place
   no data available

History of the disease and/or infection in the country
   no data available

Results of the investigation
   no data available

Description of the positive cases detected during the reporting year
   no data available

National evaluation of the recent situation, the trends and sources of infection
   no data available

Relevance as zoonotic disease
   no data available

Additional information
   no
2.8.3 Trichinella in animals

A. Trichinella in horses

Monitoring system
   Sampling strategy
      mandatory testing for all slaughtered equine;

   Frequency of the sampling
      every carcase

   Type of specimen taken
      masseters, musculus intracostalis

   Methods of sampling (description of sampling techniques)
      destructive method

   Case definition
      Reg.2075/2005

   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 стратегies 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
   carcasse destruction in rendering plant, disinfection and deratisation in place of origin.

Notification system in place
   WAHIS, RASFF

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
Bulgaria - 2011 Report on trends and sources of zoonoses

no control program in place

Relevance of the findings in animals to findings in foodstuffs and to human cases (as a source of infection)
no data available

Additional information
no
Bulgaria - 2011 Report on trends and sources of zoonoses

B. Trichinella in pigs

Number of officially recognised Trichinella-free holdings
0

Categories of holdings officially recognised Trichinella-free
no

Officially recognised regions with negligible Trichinella risk
no

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

every pig carcase is tested

For Trichinella free holdings
every pig carcase is tested

For categories of holdings officially recognised Trichinella-free
every pig carcase is tested

For regions with negligible Trichinella risk
every pig carcase is tested

Type of specimen taken
General
diafragm muscle

For Trichinella free holdings
diafragm muscle

For categories of holdings officially recognised Trichinella-free
diafragm muscle
Bulgaria - 2011 Report on trends and sources of zoonoses

For regions with negligible Trichinella risk
diafragm muscle

Methods of sampling (description of sampling techniques)
General
destructive method
For Trichinella free holdings
destructive method
For categories of holdings officially recognised Trichinella-free
destructive method
For regions with negligible Trichinella risk
destructive method

Case definition
General
Reg. 2075/2005

For Trichinella free holdings

Diagnostic/analytical methods used
General
destructive method
For Trichinella free holdings
destructive method
For categories of holdings officially recognised Trichinella-free
destructive method
For regions with negligible Trichinella risk
destructive method

Preventive measures in place
disinfection and deratisation

Control program/mechanisms
The control program/strategies in place
no

Suggestions to the Community for the actions to be taken
no

Measures in case of the positive findings or single cases
The contingency plan in place
   yes

Notification system in place
   RASFF

Results of the investigation including description of the positive cases and the verification of the Trichinella species
   Fattening pigs raised under controlled housing conditions in integrated production system
       We found Trichinella in Bulgaria in 1 of 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 (as a source of infection)
   we have 1 case in Sofia region: 10 hospitalized people. After investigation we found sourse pig misceat meat.

Additional information
   no
### Table Trichinella in animals

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling strategy</th>
<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Trichinella</th>
<th>T. spiralis</th>
<th>Trichinella spp., unspecified</th>
<th>T. britovi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigs - fattening pigs - raised under controlled housing conditions - at slaughterhouse - Surveillance</td>
<td>Laboratory of RFSD of Varna; Vratsa; Shumen; Sofia-Grad; Plovdiv; Blagoevgrad;</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>animal sample</td>
<td>Slaughter batch</td>
<td>240913</td>
<td>8</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigs - fattening pigs - not raised under controlled housing conditions - at slaughterhouse - Surveillance</td>
<td>Laboratory of RFSD of Varna; Vratsa; Shumen; Haskovo; Sofia-Grad; Gabrovo; Sliven</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>animal sample</td>
<td>Slaughter batch</td>
<td>56545</td>
<td>7</td>
<td>1</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Pigs - breeding animals - raised under controlled housing conditions - sows and boars - at slaughterhouse - Surveillance</td>
<td>Laboratory of RFSD of Varna; Vratsa; Shumen; Sofia-Grad</td>
<td>Objective sampling</td>
<td>Official sampling</td>
<td>animal sample</td>
<td>Slaughter batch</td>
<td>1413</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solipeds, domestic - horses - at slaughterhouse - Surveillance</td>
<td>Laboratory of RFSD of Varna; Vratsa; Shumen; Plovdiv; Blagoevgrad</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>animal sample</td>
<td>Slaughter batch</td>
<td>39</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wild boars - farmed - Surveillance</td>
<td>Laboratory of RFSD of Varna</td>
<td>Unspecified</td>
<td>Official sampling</td>
<td>animal sample</td>
<td>Slaughter batch</td>
<td>87</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table Trichinella in animals

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling strategy</th>
<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Trichinella</th>
<th>T. spiralis</th>
<th>Trichinella spp., unspecified</th>
<th>T. britovi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wild boars - wild - Surveillance</td>
<td>Laboratory of RFSD of Varna; Vratsa; Shumen; Haskovo; Sofia-grad; Gabrovo; Plovdiv; NRL Parasitic zoonoses</td>
<td>Objective sampling</td>
<td>Industry sampling</td>
<td>animal sample</td>
<td>Slaughter batch</td>
<td>4976</td>
<td>65</td>
<td>3</td>
<td>40</td>
<td>22</td>
</tr>
<tr>
<td>Bears - Surveillance</td>
<td>Laboratory of RFSD of Gabrovo; Plovdiv</td>
<td>Objective sampling</td>
<td>Industry sampling</td>
<td>animal sample</td>
<td>Animal</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Foxes - Monitoring</td>
<td>Laboratory of RFSD of Varna</td>
<td>Objective sampling</td>
<td>Industry sampling</td>
<td>animal sample</td>
<td>Animal</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</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.

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

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

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

Main reasons for big number of human cases are:

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

2.10.1 General evaluation of the national situation

A. Toxoplasmosis general evaluation

Additional information
  no
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
for 2011 in Bulgaria have 1 case (wild fox, on 3 July 2012 virus is still unspecified)

National evaluation of the recent situation, the trends and sources of infection
in Bulgaria is present silvatic tipe of Rabies. Is possible to connect wild life vaccination with redusing of positive cases

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

Recent actions taken to control the zoonoses
National program for control and eradication for Rabies diseases with oral vaccines (wild life)

Suggestions to the Community for the actions to be taken
no

Additional information
no
2.11.2 Lyssavirus (rabies) in animals

A. Rabies in dogs

Monitoring system

Sampling strategy
Samples shall be taken of all suspected, shown clinical signs.

Frequency of the sampling
In any case of suspected, shown clinical signs.

Type of specimen taken
Organs/tissues: brain

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.

Diagnostic/analytical methods used
Fluorescent Antibody Test (FAT) on smears from hippocampus or medulla oblongata

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.

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. BABH have a program for bites vaccination on wild life in West and Nort Bulgaria.

Recent actions taken to control the zoonoses
The information is included in previous pages.

Suggestions to the Community for the actions to be taken
no

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. (measures under Bulgarian Ordinance 23/2002)
Notification system in place

All positive cases have been notified through a WAHIS system.

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

Wild predatory animals are the reservoir of rabies virus in our country, and these are mainly foxes and of less rates jackals. Of all the 529 animals found sick of rabies within the time-period 1988 – 2005, 262 are wild animals (49.5%), 229 (87.4%) of which being foxes. Highest is the number of rabies cases registered in spring and less are the cases registered in autumn-winter seasons, those identified in summer being the lowest. This is due to ecological and biological specifics of the fox populations in our country. The spring pick of the disease is related to the reproduction period of foxes, while the autumn-winter rising trend is due to seeking and demand of living area manifested by young foxes.

Additional information

No
<table>
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<tr>
<th>Animal</th>
<th>Source of information</th>
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<th>Rabies virus (RABV)</th>
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<td>Official sampling</td>
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### Table Rabies in animals

<table>
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<tr>
<th>EBLV-2</th>
<th>Lyssavirus (unspecified virus)</th>
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</thead>
<tbody>
<tr>
<td>Cattle (bovine animals)</td>
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<tr>
<td>Sheep</td>
<td></td>
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<tr>
<td>Pigs</td>
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<tr>
<td>Dogs - stray dogs</td>
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<tr>
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<tr>
<td>Bats - wild - Monitoring</td>
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<td>Foxes - wild - Monitoring</td>
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<tr>
<td>Wolves - wild - Monitoring</td>
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<tr>
<td>Dogs - pet animals - in total - Clinical investigations</td>
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</table>
2.12 STAPHYLOCOCCUS INFECTION

2.12.1 General evaluation of the national situation

2.12.2 Staphylococcus in foodstuffs

A. Staphylococcus in Food

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

Frequency of the sampling
under MANC plan

Type of specimen taken
Milk

Methods of sampling (description of sampling techniques)
Reg. 2073/2005/EC

Definition of positive finding
Reg. 2073/2005/EC

Diagnostic/analytical methods used
Reg. 2073/2005/EC

Preventive measures in place
GHP

Control program/mechanisms
The control program/strategies in place
GHP

Suggestions to the Community for the actions to be taken
no

Measures in case of the positive findings or single cases
investigation and other under contingency plan

Notification system in place
RASFF

Additional information
no
2.13 Q-FEVER

2.13.1 General evaluation of the national situation

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

History of the disease and/or infection in the country

The BG has information about the disease from 1997

1997
- cattle: tested 27820, positive - 260
- sheep: tested 38027, positive - 455

1998
- cattle: tested 26688, positive - 375
- sheep: tested 3806, positive - 15

1999
- cattle: tested 5740, positive - 67
- sheep: tested 3923, positive - 38

2000
- cattle: tested 3659, positive - 8
- sheep: tested 2254, positive - 25

2001
- cattle: tested 2528, positive - 43
- sheep: tested 2658, positive - 41

2002
- cattle: tested 2524, positive - 166
- sheep: tested 2706, positive - 238

2003
- cattle: tested 2961, positive - 69
- sheep: tested 1813, positive - 12

2004
- cattle: tested 3895, positive - 125
- sheep: tested 4113, positive - 94

2005
- cattle: tested 3296, positive - 110
- sheep: tested 2758, positive - 114

2006
- cattle: tested 2787, positive - 67
Bulgaria - 2011 Report on trends and sources of zoonoses

sheep: tested- 2319, positive - 35

cattle: tested- 1900, positive - 47
sheep: tested- 991, positive - 48

2011

cattle: tested- 1128, positive - 0
sheep: tested- 603, positive - 8

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 (as a source of infection)

n/a

Suggestions to the Community for the actions to be taken

no

Additional information

no
### 2.13.2 Coxiella (Q-fever) in animals

#### Table Coxiella burnetii (Q fever) in animals

<table>
<thead>
<tr>
<th>Source of information</th>
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<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</th>
<th>Analytical Method</th>
<th>Sampling unit</th>
<th>Units tested</th>
<th>Total units positive for Coxiella (Q-fever)</th>
<th>C. burnetii</th>
<th>No of clinically affected herds</th>
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</thead>
<tbody>
<tr>
<td>Cattle (bovine animals) - at farm - Monitoring</td>
<td>National Diagnostic Science-and-Research Veterinary Medical Institute (NDSRVMI) in Sofia</td>
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<td>animal sample &gt; blood</td>
<td>Animal</td>
<td>Complement fixation test (CFT)</td>
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<tr>
<td>Sheep - at farm - Monitoring</td>
<td>National Diagnostic Science-and-Research Veterinary Medical Institute (NDSRVMI) in Sofia</td>
<td>Objective sampling</td>
<td>animal sample &gt; blood</td>
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<td>Complement fixation test (CFT)</td>
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<td>Official sampling</td>
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3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE
3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

3.1.2 Antimicrobial resistance in Escherichia coli, non-pathogenic

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

<table>
<thead>
<tr>
<th>Test Method Used</th>
<th>Standard methods used for testing</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Concentration (microg/ml)</th>
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<tbody>
<tr>
<td>Standard</td>
<td>Resistant &gt;</td>
<td>Resistant &lt;=</td>
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<td>---------------------------</td>
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<tr>
<td><strong>Aminoglycosides</strong></td>
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<tr>
<td>Gentamicin</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Streptomycin</td>
<td>16</td>
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<tr>
<td><strong>Amphenicols</strong></td>
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<td></td>
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<td>Chloramphenicol</td>
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<tr>
<td><strong>Cephalosporins</strong></td>
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<td></td>
</tr>
<tr>
<td>Cefotaxime</td>
<td>0.25</td>
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<tr>
<td><strong>Fluoroquinolones</strong></td>
<td></td>
<td></td>
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<tr>
<td>Ciprofloxacin</td>
<td>0.03</td>
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<td><strong>Penicillins</strong></td>
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<td><strong>Quinolones</strong></td>
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<td>Nalidixic acid</td>
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<td>Sulfonamides</td>
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Table Cut-off values used for antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Animals

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<thead>
<tr>
<th>Concentration (microg/ml)</th>
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<td>Standard</td>
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<tr>
<td>Trimethoprim</td>
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### Table Cut-off values used for antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Feed

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<th>Standard methods used for testing</th>
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<td>Quinolones</td>
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<td>Tetracyclines</td>
<td>Tetracycline</td>
</tr>
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<td>Trimethoprim</td>
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### Table Cut-off values used for antimicrobial susceptibility testing of Escherichia coli, non-pathogenic in Food

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<th>Test Method Used</th>
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### 3.2 ENTEROCOCCUS, NON-PATHOGENIC

#### 3.2.1 General evaluation of the national situation

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

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

<table>
<thead>
<tr>
<th>Test Method Used</th>
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</thead>
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<td>Glycopeptides (Cyclic peptides, Polypeptides)</td>
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<td>Vancomycin</td>
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<tr>
<td>Quinupristin/Dalfopristin</td>
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<td>Tetracycline</td>
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### Table Cut-off values for antibiotic resistance of E. faecalis in Food

<table>
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<tr>
<th>Test Method Used</th>
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</tr>
<tr>
<td>Oxazolidines</td>
<td>Linezolid</td>
</tr>
<tr>
<td>Penicillins</td>
<td>Ampicillin</td>
</tr>
<tr>
<td>Streptogramins</td>
<td>Quinupristin/Dalfopristin</td>
</tr>
<tr>
<td>Tetracyclines</td>
<td>Tetracycline</td>
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</table>
### Table Cut-off values for antibiotic resistance of E. faecium in Feed

<table>
<thead>
<tr>
<th>Test Method Used</th>
<th>Standard methods used for testing</th>
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<tbody>
<tr>
<td></td>
<td>Concentration (microg/ml)</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
</tr>
<tr>
<td>Aminoglycosides</td>
<td>Gentamicin</td>
</tr>
<tr>
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<td>Streptomycin</td>
</tr>
<tr>
<td>Amphenicols</td>
<td>Chloramphenicol</td>
</tr>
<tr>
<td>Glycopeptides (Cyclic peptides, Polypeptides)</td>
<td>Vancomycin</td>
</tr>
<tr>
<td>Macrolides</td>
<td>Erythromycin</td>
</tr>
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<tr>
<td>Tetracyclines</td>
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</tr>
</tbody>
</table>
4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS
### 4.1 ENTEROBACTER SAKAZAKII

#### 4.1.1 General evaluation of the national situation

### 4.2 HISTAMINE

#### 4.2.1 General evaluation of the national situation

#### 4.2.2 Histamine in foodstuffs

**Table Histamine in food**

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Sampling strategy</th>
<th>Sampler</th>
<th>Sample type</th>
<th>Sample Origin</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>
</tr>
</thead>
<tbody>
<tr>
<td>Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at processing plant - Surveillance</td>
<td>Central Laboratory for Veterinary Sanitary Expertise and Ecology (CLVSEE)</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Single</td>
<td>5g</td>
<td>9</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at retail - Surveillance</td>
<td>Central Laboratory for Veterinary Sanitary Expertise and Ecology</td>
<td>Objective sampling</td>
<td>Official and industry sampling</td>
<td>food sample</td>
<td>Batch</td>
<td>5g</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at processing plant - Surveillance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;200 - &lt;= 400 mg/kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 400 mg/kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - at retail - Surveillance |

**Table Histamine in food**
4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation
5. FOODBORNE

Foodborne outbreaks are incidences of two or more human cases of the same disease or infection where the cases are linked or are probably linked to the same food source. Situation, in which the observed human cases exceed the expected number of cases and where a same food source is suspected, is also indicative of a foodborne outbreak.
A. Foodborne outbreaks

System in place for identification, epidemiological investigations and reporting of foodborne outbreaks
   no data available

Description of the types of outbreaks covered by the reporting:
   Izolated outbreaks, with small number of affected people

National evaluation of the reported outbreaks in the country:
   Relevance of the different causative agents, food categories and the agent/food category combinations
      In most of cases in Bulgaria agent is Staphylococcus from kitchen workers. It was found in RTEF or in restaurant's dishes;
      S. enteritidis is from eggs from hoby farm;
      Trichinella is from home made meat preparations. Pigs are home rased and home slaughtered.

   Relevance of the different type of places of food production and preparation in outbreaks
      Trichinella ussually is from home rased and home slaughtered pigs. Other very important way (not in 2011) is illegal hunting.

   Control measures or other actions taken to improve the situation
      February 2011 was established Bulgarian Food Safety Agency, who include also experts from previous regional departments of Ministry of health. This way we improve comunication according zoonoses and food borne outbreaks.
      From begining ot 2012 have 3 meetings between experts from BABH and from Ministry of health according common work with zoonoses and food borne outbreaks.

   Suggestions to the community for the actions to be taken
      no

   Additional information
      no
### Table Foodborne Outbreaks: summarised data

<table>
<thead>
<tr>
<th>Pathogen/Microorganism</th>
<th>Number of outbreaks</th>
<th>Human cases</th>
<th>Hospitalized</th>
<th>Deaths</th>
<th>Strong evidence Number of Outbreaks</th>
<th>Total number of outbreaks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmonella - S. Typhimurium</td>
<td>0</td>
<td>unknown</td>
<td>unknown</td>
<td>unknown</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Salmonella - S. Enteritidis</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Salmonella - Other serovars</td>
<td>0</td>
<td>unknown</td>
<td>unknown</td>
<td>unknown</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Campylobacter</td>
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<td>unknown</td>
<td>unknown</td>
<td>unknown</td>
<td>0</td>
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</tr>
<tr>
<td>Listeria - Listeria monocytogenes</td>
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<td>unknown</td>
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</tr>
<tr>
<td>Listeria - Other Listeria</td>
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<td>unknown</td>
<td>unknown</td>
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</tr>
<tr>
<td>Yersinia</td>
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<tr>
<td>Escherichia coli, pathogenic - Verotoxigenic E. coli (VTEC)</td>
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<tr>
<td>Bacillus - Other Bacillus</td>
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<td>Staphylococcal enterotoxins</td>
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<td>Clostridium - Cl. botulinum</td>
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<tr>
<td>Clostridium - Cl. perfringens</td>
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</tbody>
</table>
## Weak evidence or no vehicle outbreaks

<table>
<thead>
<tr>
<th></th>
<th>Number of outbreaks</th>
<th>Human cases</th>
<th>Hospitalized</th>
<th>Deaths</th>
<th>Strong evidence Number of Outbreaks</th>
<th>Total number of outbreaks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clostridium - Other Clostridia</strong></td>
<td>0</td>
<td>unknown</td>
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<tr>
<td><strong>Other Bacterial agents - Brucella</strong></td>
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<tr>
<td><strong>Other Bacterial agents - Shigella</strong></td>
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<tr>
<td><strong>Other Bacterial agents - Other Bacterial agents</strong></td>
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<td><strong>Parasites - Trichinella</strong></td>
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<td><strong>Parasites - Giardia</strong></td>
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<td><strong>Parasites - Cryptosporidium</strong></td>
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<tr>
<td><strong>Parasites - Other Parasites</strong></td>
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<td>unknown</td>
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<td>0</td>
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<tr>
<td><strong>Viruses - Norovirus</strong></td>
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<tr>
<td><strong>Viruses - Hepatitis viruses</strong></td>
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</tr>
<tr>
<td><strong>Viruses - Other Viruses</strong></td>
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</tr>
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</tr>
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<td><strong>Other agents - Marine biotoxins</strong></td>
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<td><strong>Other agents - Other Agents</strong></td>
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</tr>
<tr>
<td>Unknown agent</td>
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<td>Human cases</td>
<td>Hospitalized</td>
<td>Deaths</td>
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