European Food Safety Authority

ZOONOSES MONITORING

Latvia

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

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

IN 2016

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 Latvia during the year 2016.

The information covers the occurrence of these diseases and agents in animals, foodstuffs and in some cases also in feedingstuffs. In addition the report includes data on antimicrobial resistance in some zoonotic agents and indicator 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 Union 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 European Union 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 European Union Summary Reports on zoonoses and antimicrobial resistance that are published each year by EFSA.

---

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

List of Contents

1 ANIMAL POPULATIONS

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

1.1 Populations

1.1.1 Information on susceptible animal population

Sources of information

Agricultural Data Centre (ADC)ADC is a state agency under the supervision of the Ministry of Agriculture that performs collection, processing and analysis of zootechnical, veterinary and agricultural data in the Latvia and develop a uniform register of animals and herds (cattle, pigs, sheep, goats etc.) and a pedigree information system according to international standards.

Dates the figures relate to and the content of the figures

Data on commercial poultry - average population during the year.

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

Herd - an agricultural animal or group of animals belonging to one owner.Holding - shall mean separate confined area in which animals are kept regularly or temporary.Poultry - shall mean fowl, turkeys, guinea fowl, ducks, geese, quails, pigeons, pheasants, partridges, ratites and etc. birds reared or kept in captivity for breeding, the production of meat or eggs for consumption, or for re-stocking supplies of game.Day-old chicks - poultry less than 72 hours old, not yet fed; except muscovy ducks (Cairina moschata) or their crosses may be fed and ratites (Ratitae) less than 5 days old, not yet fed.Commercial poultry - poultry 72 hours old or more, reared for the production and sale for trade or to companies of meat and/or eggs for consumption, or for restocking supplies of game.Poultry flock - all poultry of the same health status kept on the same premises or in the same enclosure and constituting a single epidemiological unit. In housed poultry this will include all birds sharing the same airspace.

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

Animals and herds are distributed almost evenly over the whole territory of Latvia. Concerning commercial poultry population, there are two districts, where the holdings with biggest numbers of birds are located, both in the centre/southern centre of Latvia.

2 DISEASE STATUS

2.1 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.1.1 General evaluation of the national situation

2.1.1.1 Mycobacterium - general evaluation

History of the disease and/or infection in the country

The use of intradermal tuberculin tests for diagnosis of bovine tuberculosis in Latvia has started in 1927. In the pre-war period, intradermal tuberculin tests were not compulsory and were done on a voluntary basis. In 1937, 10.4% of the tested cows were found positive. After the Second World War private farms were eliminated. The majority of animals were moved to collective holdings, where infected and non-infected animals were kept together, and tuberculosis continued to spread. Since tuberculosis preventive measures were introduced after 1960, the number of newly infected herds decreased. The tuberculosis eradication programme for domestic animals was introduced in 1968. Also testing of pigs, sheep, cats, birds and shepherd dogs was introduced with the aim to identify the sources of infection.

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

Since 1975, bovine tuberculosis was diagnosed only in 7 herds: -1 herd in 1977 -1 herd in 1978 -2 herds in 1980 -2 herds in 1981 -1 herd in 1989

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

As Latvia has been free of bovine tuberculosis since 1989, and the status of freedom from tuberculosis is controlled by the responsible authority, bovine tuberculosis is not considered to pose a risk on animal or human health.

2.1.2 Mycobacterium in animals

2.1.2.1 Mycobacterium spp., unspecified in animal - Pigs - Farm - animal sample

Monitoring system

Sampling strategy

According to the national control programme, all pigs slaughtered have been subject to an official post mortem examination.

Frequency of the sampling

According to the national control programme, all pigs slaughtered have been subject to an official post mortem examination.

Type of specimen taken

Tissue from suspect animals in slaughterhouses.

Methods of sampling (description of sampling techniques)

For bacteriological examination of tissue from suspect animals: Classical bacteriology - OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2016.

Case definition

A single animal from which M.bovis or M.avium has been isolated.

Vaccination policy

Vaccination is prohibited.

Notification system in place

According to The Veterinary Medicine Law, animal owner/keeper must immediately notify to veterinarian on animal death, aborts, simultaneous affection of several animals and any case, which arise suspicions that animal is affected by infectious disease.

2.1.2.2 Mycobacterium tuberculosis complex (MTC) in animal - Cattle (bovine animals) - animal sample

Status as officially free of bovine tuberculosis during the reporting year

The entire country free

From 2011 Latvia is officially free bovine tuberculosis country.

Monitoring system

Sampling strategy

100% of stock bulls are tested annually by using intradermal tuberculin test. Also according to the national control programme, all bovine animals slaughtered have been subject to an official post mortem examination in accordance with provisions of Section I (2c) of Annex A to Directive 64/432/EEC, i.e., bovine tuberculosis surveillance is carried out through an official post-mortem examination in slaughterhouses.

Frequency of the sampling

100% of stock bulls are tested annually by using intradermal tuberculin test. Also according to the national control programme, all bovine animals slaughtered have been subject to an official post mortem examination in accordance with provisions of Section I (2c) of Annex A to Directive 64/432/EEC, i.e., bovine tuberculosis surveillance is carried out through an official post-mortem examination in slaughterhouses.

Type of specimen taken

Intradermal tuberculin test.Tissue from suspect animals in slaughterhouses or animals positive in the intradermal tuberculin test.

Case definition

A single animal from wich M. bovis has been isolated.

Diagnostic/analytical methods used

For bacteriological examination of tissue from suspect animals in slaughterhouses or animals positive in the intradermal test: Classical bacteriology - OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2016, Chapter 2.4.6.

Vaccination policy

Vaccination is prohibited.

Measures in case of the positive findings or single cases

Measures applied in cases of suspicion or confirmation of a disease are according to Council Directive No 64/432/EEC of 26 June 1964 implemented by Regulation of Cabinet of Ministers Nr. 298, 21 April 2006, "Procedures for prevention and combating of such infectious diseases as to which both animals and humans are susceptible". Measures to be implemented at suspected holding includes:1) Movement restrictions on the animals; 2) Live animals are not allowed to leave holding except for slaughter;3) Listing all suspect animals;4) Isolating of suspect or positive reacted animals; 5) Restrictions on the trade of milk and milk products;6) Control of staff, visitors and vehicles; 7) Control of feed and water supply;8) Control of the removal of manure;9) Vermin control;10) Carrying out tests with the bovine tuberculin at the holding. In case of a positive reaction to the repeated test, the animal shall be intended for slaughter, the viscera and pulmonary lymphnodes thereof shall be removed and submitted for investigation to the authorised laboratory and additionally the following measures shall apply at the holding:1) Slaughter of positive bovine animals at least within 30 days upon detection;2) Slaughtering of animals shall be carried out in accordance with Community legislation on food hygiene. Products derived from such animals may be placed on the market for human consumption in accordance with Community legislation on food hygiene;3) The premises and surrounding area, as well as vehicles, equipment and other materials that may be contaminated with disease agents are cleaned, washed and disinfected under the supervision of an authorised veterinarian or state veterinary inspector; 4) Bedding and other materials that may be contaminated with disease agents are disinfected under the supervision of an authorised veterinarian or state veterinary inspector; manure are disinfected or subjected to treatment in accordance with Community legislation; 5) Other necessary disease eradication measures in the affected holding. Restrictions are lifted by a State veterinary inspector after the above measures have been taken and all animals over six weeks of age have reacted negatively to at least two consecutive tuberculin tests, the first no less than 60 days and the second no less than four months and no more than 12 months after the removal of the last positive reactor. Costs of eradication of bovine tuberculosis are compensated according to Regulation of Cabinet of Ministers No 177, 13 March 2005, "Procedure for payment of compensations to owners of animals which have arise due to eradication of epizootic diseases or animal infectious diseases, which are under state supervision".

Notification system in place

Animal infectious diseases reporting are based on: 1. Veterinary Medicine Law of 26 April 2001 – according to requirements of the Veterinary Medicine Law, animal owner/keeper is obligated immediately notify to veterinarian on animal death, aborts, simultaneous affection of several animals and any case, which arise suspicions that animal is affected by infectious disease. 2. Regulation of Cabinet of Ministers No. 127 of 21 February 2012 "Regulation on notifiable, registrable and state control animal diseases infectious and procedures for the provision of information about these diseases to Food and Veterinary Service" – according to requirements of mentioned regulation: - animal owner/holder or any other person who is in possession of relevant information immediately in one day, using any means of communication, report to veterinarian on suspicion of animal illness with animal diseases listed in Annex I Part I (bovine tuberculosis included in this list), Part II and on presence of agent listed animal diseases in Annex I Part I, Part II in the environment, animal feed or food. - detailed information within 24 hours on each outbreak in a Latvia of an infectious disease in animals, listed in Annex I Part I of mentioned Regulation is sent by the Food and veterinary service of Latvia to the European Commission, World Animal Health Organization (OIE), other EU Member states. 3. Regulation of the Cabinet of Ministers No. 7 of 5 January 1999 "Procedure of Notification of Infectious Diseases". 4. Regulation of Cabinet of Ministers No. 90 of 31 January 2012 "Procedures for the supervision and exchange of information on infectious diseases that affect both animals and people" - these Regulation prescribe the procedures for the supervision and exchange of information on infectious diseases that affect both animals and people (hereinafter - the zoonoses), on the pathogens of zoonoses, as well as on the antimicrobial resistance. 5. Without mentioned requirements in legislation acts listed above, according to FVS order veterinarians compile and send reports to Territorial Units (TU) of Food and Veterinary Service every month. TU summarize these reports and then send to FVS central office every month.

2.2 BRUCELLOSIS

2.2.1 General evaluation of the national situation

2.2.1.1 Brucella - general evaluation

History of the disease and/or infection in the country

The last time that bovine brucellosis was diagnosed in Latvia was in 1963. Vaccination has never been used as an instrument in brucellosis eradication and control. Brucella melitensis has never been detected in Latvia at all. Brucellosis in pigs was first detected in Latvia in 1981. From 1981 till 1994 porcine brucellosis were detected in 36 holdings. Since then till 2010, no cases of brucellosis in pigs has been detected. At the end of 2010 sporadic case of porcine brucellosis was detected in the one holding. Preventive vaccination of animals and usage of hyper - immune serum against brucellosis is prohibited. Abortions have to be reported. They are investigated bacteriologically.

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

As Latvia has been free of bovine brucellosis since 1963, and the status of freedom from brucellosis is controlled by the responsible authority, brucellosis is not considered to pose a risk on animal or human health.

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

Since 1988, no cases of human brucellosis have been registered.

2.2.2 Brucella in animals

2.2.2.1 B. suis in animal - Pigs - Farm - animal sample

Monitoring system

Sampling strategy

Programme is based on Regulation of Cabinet of Ministers No 63 of 29 January 2013 "Procedures for the prevention and eradication of brucellosis in swine".

Frequency of the sampling

All breeding boars that are used for artificial insemination are tested once per year. For the getting of officially free status of the holding - sows, young sows and breeding boars that are used for breeding in the own herd are tested as follows: sows - once per two years 100% of animals, young sows - before insemination 100% of animals and breeding boars - are tested once per year 100% of animals. For the maintain of officially free status of the holding - sows and breeding boars are tested as follows: sows - according to scheme of 95% confidence and 10% prevalence per year, breeding boars - once per year 100% of animals.

Type of specimen taken

Blood

Case definition

If the Rose Bengal Test is positive, the animal is tested serologically again by Rose Bengal Test or Agglutination Test and Complement Fixation Test. If the second testing (Rose Bengal Test and Complement Fixation Test) also reveals positive results, the animal is considered positive. If B. suis is isolated from tissue bacteriologically, the animal and the herd, respectively, is considered positive.

Diagnostic/analytical methods used

Rose Bengal Test, Complement Fixation Test, Classical bacteriology (OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2016, chapter 2.1.4.)

Vaccination policy

Vaccination is prohibited.

Measures in case of the positive findings or single cases

According to requirements of Regulation of Cabinet of Ministers No 63 of 29 January 2013 "Procedures for the prevention and eradication of brucellosis in swine" measures to be implemented at suspected holding includes:1) Movement restrictions on the animals; 2) Isolating of suspect animals; 3) Sampling of animals for further investigation; In case of confirmed diagnosis additionally the following measures shall apply at the holding:1) Slaughtering or destroying of positive animals; 2) Slaughtering of animals shall be carried out in accordance with Community legislation on food hygiene. Products derived from such animals may be placed on the market for human consumption in accordance with Community legislation on food hygiene; 3) The premises and surrounding area, as well as vehicles, equipment and other materials that may be contaminated with disease agents are cleaned, washed and disinfected under the supervision of a veterinarian or State veterinary inspector; 4) Bedding and other materials that may be contaminated with disease agents are disinfected under the supervision of a veterinarian or state veterinary inspector; manure are disinfected or subjected to biothermic treatment; 5) Foetuses, still-born piglets are destroyed in accordance with Community legislation ; 6) Other necessary disease eradication measures in the affected holding.

Notification system in place

According to requirements of Regulation of Cabinet of Ministers No 63 of 29 January 2013 "Procedures for the prevention and eradication of brucellosis in swine" - animal owner/keeper is obligated immediately within one day, using any means of communication, report to veterinarian or Food and veterinary service on animal aborts, on suspicion of animal illness or animal illness with swine brucellosis.

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

Brucellosis in pigs was first detected in Latvia in 1981. From 1981 till 1994 porcine brucellosis were detected in 36 holdings. Since then till 2010, no cases of brucellosis in pigs has been detected. At the end of 2010 sporadic case of porcine brucellosis was detected in the one holding.

2.2.2.2 B. abortus in animal - Cattle (bovine animals) - animal sample

Status as officially free of bovine brucellosis during the reporting year

The entire country free

Latvia is officially free from bovine brucellosis since 2012. Since 1963 no registered cases of bovine brucellosis in Latvia.

Monitoring system

Sampling strategy

Sampling is part of a national control programme and takes place on farm. The programme is based on the Council Directive No 64/432/EEC of 26 June 1964 on health problems affecting intra-Community trade in bovine animals and swine, on the Annex A Part II implemented by Regulation of Cabinet of Ministers No 881 of 18 December 2012 "Procedures for the implementation of prevention and eradication measures of brucellosis in bovine animals".

Frequency of the sampling

100% of the stock bulls are tested on brucellosis annually. Also according to the national control programme all cattle herds must be tested once per five years, i.e. every year are tested 20% of total number of cattle holdings.

Type of specimen taken

Milk/blood

Methods of sampling (description of sampling techniques)

Milk/blood samples are taken on the farm.

Case definition

An animal is considered to be infected when the individual blood sample is positive in the complement fixation test .

Diagnostic/analytical methods used

Serological tests are carried out by using the Rose-Bengal-Test (RBT) on blood serum samples for a first screening in cases that no milk is available or the number of animals is very low. In bigger dairy herds, bulk tank milk samples are tested by using ELISA. If blood samples turn out positive in the RBT or bulk milk samples after the ELISA, individual serological testing has to be carried out on each animal.

Vaccination policy

Vaccination is prohibited.

Measures in case of the positive findings or single cases

According to Regulation of Cabinet of Ministers No 881, 18 December 2012 "Procedure for prevention and eradication of brucellosis in bovine animals" following measures are taken in the suspected holding: 1) Movement restrictions on the animals; 2) Live animals are not allowed to leave holding except for slaughter;3) Listing all suspect animals;4) Restrictions on the trade of milk and milk products;5) Control of staff, visitors and vehicles; 6) Control of feed and water supply;7) Control of the removal of manure;8) Vermin control;9) Sampling of animals for further investigation. In case of confirmed diagnosis additionally the following measures shall apply at the holding:1) Slaughter of positive bovine animals at least within 30 days upon detection;2) Slaughtering of animals shall be carried out in accordance with Community legislation on food hygiene. Products derived from such animals may be placed on the market for human consumption in accordance with Community legislation on food hygiene;3) The premises and surrounding area, as well as vehicles, equipment and other materials that may be contaminated with disease agents are cleaned, washed and disinfected under the supervision of an authorised veterinarian or state veterinary inspector; 4) Bedding and other materials that may be contaminated with disease agents are disinfected under the supervision of veterinarian or state veterinary inspector; manure are disinfected or subjected to biothermic treatment;5) Foetuses, still-born calves, calves which have died from brucellosis is destroyed in accordance with Community legislation; 6) Other disease eradication measures in the affected holding. Restrictions are lifted by a State veterinary inspector if all bovine animals present in the herd at the time of the outbreak have been slaughtered, or two serological tests of all bovine animals over 12 months old show negative results (the first test is to be carried out at least 30 days after the removal of the positive animal and the second at least 60 days later) and above listed measures have been taken.

Notification system in place

Animal infectious diseases reporting are based on: . Veterinary Medicine Law of 26 April 2001 – according to requirements of the Veterinary Medicine Law, animal owner/keeper is obligated immediately notify to veterinarian on animal death, aborts, simultaneous affection of several animals and any case, which arise suspicions that animal is affected by infectious disease. 2. Regulation of Cabinet of Ministers No. 127 of 21 February 2012 "Regulation on notifiable, registrable and state control animal diseases infectious and procedures for the provision of information about these diseases to Food and Veterinary Service" – according to requirements of mentioned regulation: - laboratory immediately within one hour, using any means of communication, report to Food and veterinary service on detection of disease agent in the sample or positive testing results of animal diseases listed in Annex I Part I (bovine brucellosis included in this list). - animal owner/holder or any other person who is in possession of relevant information immediately in one day, using any means of communication, report to veterinarian on suspicion of animal illness with animal diseases listed in Annex I Part I (bovine brucellosis included in this list) , Part II and on presence of agent listed animal diseases in Annex I Part I, Part II in the environment, animal feed or food. - detailed information within 24 hours on each outbreak in a Latvia of an infectious disease in animals, listed in Annex I Part I of mentioned Regulation is sent by the Food and veterinary service of Latvia to the European Commission, World Animal Health Organization (OIE), other EU Member states. 3. Regulation of the Cabinet of Ministers No. 7 of 5 January 1999 "Procedure of Notification of Infectious Diseases". 4. Regulation of Cabinet of Ministers No. 90 of 31 January 2012 "Procedures for the supervision and exchange of information on infectious diseases that affect both animals and people" - these Regulation prescribe the procedures for the supervision and exchange of information on infectious diseases that affect both animals and people (hereinafter - the zoonoses), on the pathogens of zoonoses, as well as on the antimicrobial resistance. 5. Without mentioned requirements in legislation acts listed above, according to FVS order veterinarians compile and send reports to Territorial Units (TU) of Food and Veterinary Service every month. TU summarize these reports and then send to FVS central office every month.

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

As Latvia has been free of bovine brucellosis since 1963, and the status of freedom from brucellosis is controlled by the responsible authority, brucellosis is not considered to pose a risk on animal or human health.

2.2.2.3 B. melitensis in animal - Goats - animal sample

Status as officially free of caprine brucellosis during the reporting year

The entire country free

Latvia is officialy free country from Brucella melitensis since 2010.

Additional information

Brucella melitensis has never been detected in Latvia at all.

Monitoring system

Sampling strategy

In 2016, according to the national control programme, 5% of the total number of goats older than 6 months were tested on brucellosis. Programme is based on Regulation of Cabinet of Ministers No 988 of 20 December 2011 "Procedures for the prevention and eradication of brucellosis in sheep and goats ".

Type of specimen taken

Blood

Methods of sampling (description of sampling techniques)

Blood samples are taken at farm.

Case definition

An animal is considered to be suspected when the individual blood sample is positive in the RBT or CFT. Confirmed case is by bacteriological detection of agent.

Diagnostic/analytical methods used

Blood serum samples are tested by RBT.

Vaccination policy

Vaccination is prohibited.

Measures in case of the positive findings or single cases

See B. abortus in bovines.

Notification system in place

Animal infectious diseases reporting are based on: 1. Veterinary Medicine Law of 26 April 2001–according to requirements of the Veterinary Medicine Law, animal owner/keeper is obligated immediately notify to veterinarian on animal death, aborts, simultaneous affection of several animals and any case, which arise suspicions that animal is affected by infectious disease. 2. Regulation of Cabinet of Ministers No. 127 of 21 February 2012 "Regulation on notifiable, registrable and state control animal diseases infectious and procedures for the provision of information about these diseases to Food and Veterinary Service" -according to requirements of mentioned regulation:- laboratory immediately within one hour, using any means of communication, report to Food and veterinary service on detection of disease agent in the sample or positive testing results of animal diseases listed in Annex I Part I (ovine/caprine brucellosis included in this list).- animal owner/holder or any other person who is in possession of relevant information immediately in one day, using any means of communication, report to veterinarian on suspicion of animal illness with animal diseases listed in Annex I Part I (ovine/caprine brucellosis included in this list) , Part II and on presence of agent listed animal diseases in Annex I Part I, Part II in the environment, animal feed or food. - detailed information within 24 hours on each outbreak in a Latvia of an infectious disease in animals, listed in Annex I Part I of mentioned Regulation is sent by the Food and veterinary service of Latvia to the European Commission, World Animal Health Organization (OIE), other EU Member states.3. Regulation of the Cabinet of Ministers No. 7 of 5 January 1999 "Procedure of Notification of Infectious Diseases". 4. Regulation of Cabinet of Ministers No. 90 of 31 January 2012 "Procedures for the supervision and exchange of information on infectious diseases that affect both animals and people" - these Regulation prescribe the procedures for the supervision and exchange of information on infectious diseases that affect both animals and people (hereinafter - the zoonoses), on the pathogens of zoonoses, as well as on the antimicrobial resistance. 5. Without mentioned requirements in legislation acts listed above, according to FVS order veterinarians compile and send reports to Territorial Units (TU) of Food and Veterinary Service every month. TU summarize these reports and then send to FVS central office every month.

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

As no case of B. melitensis has ever been detected in Latvia, it does not pose a risk on animal and human health.

2.2.2.4 B. melitensis in animal - Sheep - animal sample

Status as officially free of ovine brucellosis during the reporting year

The entire country free

Latvia is officialy free country from Brucella melitensis since 2010.

Additional information

B. melitensis has never been detected in Latvia at all.

Monitoring system

Sampling strategy

In 2016, according to the national control programme, 5% of the total number of sheep older than 6 months were tested on brucellosis. Programme is based on Regulation of Cabinet of Ministers No 988 of 20 December 2011 "Procedures for the prevention and eradication of brucellosis in sheep and goats ".

Type of specimen taken

Blood

Methods of sampling (description of sampling techniques)

Blood samples are taken at farm.

Case definition

An animal is considered to be infected when the individual blood sample is positive. Confirmed case is by bacteriological detection of agent.

Diagnostic/analytical methods used

Blood serum samples are tested by RBT or CFT.

Vaccination policy

Vaccination is prohibited.

Measures in case of the positive findings or single cases

See B. abortus in bovines

Notification system in place

Animal infectious diseases reporting are based on: 1. Veterinary Medicine Law of 26 April 2001 – according to requirements of the Veterinary Medicine Law, animal owner/keeper is obligated immediately notify to veterinarian on animal death, aborts, simultaneous affection of several animals and any case, which arise suspicions that animal is affected by infectious disease. 2. Regulation of Cabinet of Ministers No. 127 of 21 February 2012 "Regulation on notifiable, registrable and state control animal diseases infectious and procedures for the provision of information about these diseases to Food and Veterinary Service" - according to requirements of mentioned regulation:- laboratory immediately within one hour, using any means of communication, report to Food and veterinary service on detection of disease agent in the sample or positive testing results of animal diseases listed in Annex I Part I (ovine/caprine brucellosis included in this list). - animal owner/holder or any other person who is in possession of relevant information immediately in one day, using any means of communication, report to veterinarian on suspicion of animal illness with animal diseases listed in Annex I Part I (ovine/caprine brucellosis included in this list) , Part II and on presence of agent listed animal diseases in Annex I Part I, Part II in the environment, animal feed or food.- detailed information within 24 hours on each outbreak in a Latvia of an infectious disease in animals, listed in Annex I Part I of mentioned Regulation is sent by the Food and veterinary service of Latvia to the European Commission, World Animal Health Organization (OIE), other EU Member states. 3. Regulation of the Cabinet of Ministers No. 7 of 5 January 1999 "Procedure of Notification of Infectious Diseases". 4. Regulation of Cabinet of Ministers No. 90 of 31 January 2012 "Procedures for the supervision and exchange of information on infectious diseases that affect both animals and people" - these Regulation prescribe the procedures for the supervision and exchange of information on infectious diseases that affect both animals and people (hereinafter - the zoonoses), on the pathogens of zoonoses, as well as on the antimicrobial resistance. 5. Without mentioned requirements in legislation acts listed above, according to FVS order veterinarians compile and send reports to Territorial Units (TU) of Food and Veterinary Service every month. TU summarize these reports and then send to FVS central office every month.

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

As no case of B. melitensis has ever been detected in Latvia, it does not pose a risk on animal and human health.

3 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.

3.1 SALMONELLOSIS

3.1.1 General evaluation of the national situation

3.1.1.1 Salmonella - general evaluation

History of the disease and/or infection in the country

The prevalence of Salmonella in animals and food of animal origin has been monitored over a long period of time. From 1967 until the end of 2003, 51836 Salmonella isolates were obtained from animal samples. Most isolates originated from poultry (57,6%) and from pigs (29,0%). In cattle and fur animals, Salmonella was isolated in lower numbers, 8,6% and 2,7%, respectively. Goats (0,05%), horses (0,01%) and other animals (2,0%) were also investigated.The main serotypes found in poultry in the same period of time (1967-2003) were S. Gallinarum-pullorum (87,1%), S. Enteritidis (9,6% of isolates) and S. Typhimurium (2,8%). In pigs, besides S. Choleraesuis (94,0%), mainly S. Typhimurium was found (0,8%), while in cattle S. Enteritidis (57,9%) and S. Dublin (35,4%) were the most prominent serotypes. In fur animals, four different serotypes were isolated: S. Choleraesuis (29,9%), S. Dublin (23,5%), S. Enteritidis (22,5%) and S. Typhimurium (20,6%).

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

S. Enteritidis is the most prevalent serotype isolated from poultry and also from poultry meat. Accordingly, also human cases of S. Enteritidis-caused illness prevail during the last years. The increase in the number of human salmonellosis cases is predominantly reported during the summer months.

3.1.2 Salmonella in foodstuffs

3.1.2.1 Salmonella in food - Meat from bovine animals - food sample

Monitoring system

Sampling strategy

At retail

One sample consists of 5 sample units. For laboratory testing 10/25 g of each unit are taken for further investigations.

Frequency of the sampling

At retail

Sampling distributed evenly throughout the year

Type of specimen taken

At retail

Other: meat preparations/meat products

Methods of sampling (description of sampling techniques)

At retail

According to regulation 2073/2005.

Definition of positive finding

At retail

None of the units is allowed to contain Salmonella spp. The sample is considered positive, if one or more of the units are positive.

Diagnostic/analytical methods used

At retail

Other: LVS EN ISO 6579 : 2003.

3.1.2.2 Salmonella in food - Meat from broilers (Gallus gallus) - food sample

Monitoring system

Sampling strategy

At meat processing plant

Inspectors of the Food and Veterinary Service are taking the samples. One sample consists of 5 units. Every unit is packed and stored separately, and also laboratory testing is performed on each unit. For laboratory testing, 25g of each unit are taken for further investigations.

At retail

Inspectors of the Food and Veterinary Service are taking the samples. One sample consists of 5 units. Every unit is packed and stored separately, and also laboratory testing is performed on each unit. For laboratory testing, 25g of each unit are taken for further investigations.

Frequency of the sampling

At meat processing plant

Sampling distributed evenly throughout the year

At retail

Sampling distributed evenly throughout the year

Methods of sampling (description of sampling techniques)

At meat processing plant

Method according to Regulation 2073/2005.

At retail

Method according to Regulation 2073/2005.

Definition of positive finding

At meat processing plant

None of the units is allowed to contain Salmonella spp. The sample is considered positive, if one or more of the units are positive.

At retail

None of the units is allowed to contain Salmonella spp. The sampleis considered positive, if one or more of the units are positive.

Diagnostic/analytical methods used

At meat processing plant

LVS EN ISO 6579:2003

At retail

LVS EN ISO 6579:2003

Control program/mechanisms

The control program/strategies in place

National control programme on Salmonella, based on the Regulation (EC) No 2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of salmonella and other specified foodborne zoonotic agents.

Measures in case of the positive findings or single cases

The inspector immediately has to perform an inspection at the slaughterhouse, processing plant or at the store. He decides what to do with the rest of the batch, if there are still products left, and collects all necessary documents to clarify the origin of the product. The inspector also decides on the actions that have to be taken in the company, like asking for HACCP system improvements etc. Disinfection has to be carried out at all places where the infected product had contact with.

3.1.2.3 Salmonella in food - Meat from pig - food sample

Monitoring system

Sampling strategy

At meat processing plant

Inspectors of the Food and Veterinary Service are taking the samples. One sample consists of 5 units. Every unit is packed and stored separately, and also laboratory testing is performed on each unit. For laboratory testing, 10/25g of each unit are taken for further investigations.

At retail

Inspectors of the Food and Veterinary Service are taking the samples. One sample consists of 5 units. Every unit is packed and stored separately, and also laboratory testing is performed on each unit. For laboratory testing, 10/25g of each unit are taken for further investigations.

Frequency of the sampling

At meat processing plant

Sampling distributed evenly throughout the year

At retail

Sampling distributed evenly throughout the year

Type of specimen taken

At slaughterhouse and cutting plant

Surface of carcass

At retail

Minced meat, meat preparations

Methods of sampling (description of sampling techniques)

At meat processing plant

Method according to regulation 2073/2005

At retail

Method according to regulation 2073/2005.

Definition of positive finding

At meat processing plant

None of the units is allowed to contain Salmonella spp. The sample is considered positive, if one or more of the units are positive.

At retail

None of the units is allowed to contain Salmonella spp. The sample is considered positive, if one or more of the units are positive.

Diagnostic/analytical methods used

At meat processing plant

LVS EN ISO 6579:2003

At retail

LVS EN ISO 6579:2003

Control program/mechanisms

The control program/strategies in place

National control programme on Salmonella, based on the Regulation (EC) No 2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of salmonella and other specified foodborne zoonotic agents.

Measures in case of the positive findings or single cases

The inspector immediatly has to perform an inspection at the processing plant or at the store. He decides what to do with the rest of the batch, if there are still products left, and collects all necessary documents to clarify the origin of the product. The inspector also decides on the actions that have to be taken in the company, like asking for HACCP system improvements etc. Disinfection has to be carried out at all places where the infected product had contact with.

3.1.2.4 Salmonella in food - Eggs - food sample

Monitoring system

Sampling strategy

Inspectors of the Food and Veterinary Service are taking samples of raw liquid eggs at production plant. One sample consists of 5 units. Every unit is packed and stored separately, and also laboratory testing is performed on each unit. For laboratory testing, 25g of each unit are taken for further investigations.

Frequency of the sampling

Raw material for egg products (at production plant)

Sampling distributed evenly throughout the year

Type of specimen taken

Raw material for egg products (at production plant)

Mixture of yolk and white

Methods of sampling (description of sampling techniques)

Raw material for egg products (at production plant)

Method according to Regulation No 2073/2005

Definition of positive finding

Raw material for egg products (at production plant)

None of the units is allowed to contain Salmonella spp. The sample is considered positive, if one or more of the units are positive.

Diagnostic/analytical methods used

Raw material for egg products (at production plant)

Bacteriological method: ISO 6579:2002

Control program/mechanisms

The control program/strategies in place

National control programme on Salmonella, based on the Regulation (EC) No 2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of salmonella and other specified foodborne zoonotic agents.

Measures in case of the positive findings

The inspector immediately has to perform an inspection at the production plant or at the store. He decides what to do with the rest of the batch, if there are still products left, and collects all necessary documents to clarify the origin of the product. The inspector also decides on the actions that have to be taken in the company, like asking for HACCP system improvements etc. Disinfection has to be carried out at all places where the infected product had contact with.

3.1.3 Salmonella in animals

3.1.3.1 Salmonella in animal - All animals - animal sample

Monitoring system

Sampling strategy

Testing is carried out according to the sampling requirements of theRegulation of Cabinet of Ministers No 741, 6 November, 2007 Order of eradication of salmonella and other food-borne zoonotic agents in poultry flocks which are direct suppliers of small quantities to final consumer. 1.Samples are taken in poultry flocks others than Gallus gallus (quail etc.) for egg production: 1.1. day-old birds:- rinses from the internal surfaces of boxes in which the chicks are delivered to the holding;- samples from the carcasses of chicks found to be dead on arrival.1.2.pullets two weeks prior to entering the laying phase - pooled faecal samples;1.3.adult poultry - once during laying phase and 4 weeks prior to slaughter - pooled faecal samples.2. Samples are taken in duck and geese flocks for meat production - semi-annually one flock per holding prior to slaughter - pooled faecal samples.

Case definition

Animals at farm

A positive case is a unit (flock, herd or individual animal) confirmed positive for Salmonella. In general, the flock is the epidemiological unit.

Diagnostic/analytical methods used

Animals at farm

Bacteriological method: Amendment 1 of EN/ISO 6579-2002/Amd1:2007

Measures in case of the positive findings or single cases

-Official trade restrictions on poultry and products thereof are applied to the infected flock.-Live poultry from the infected flock is not allowed to leave the holding except for slaughter. -Meat of the positive flock has to be heat treated according to the Community legislation on food hygiene.-Table eggs are not allowed to leave the holding except for further processing in an establishment producing egg products.-The premises of the infected flock are cleaned and disinfected. Restocking is allowed after an official environmental sampling.-Epidemiological investigations are carried out to clarify the origin of the Salmonella infection.

Notification system in place

Salmonella spp. is notifiable in animals, foodstuffs, feed and humans.

3.1.3.2 Salmonella in animal - Cattle (bovine animals) - animal sample

Additional information

Salmonellosis in other animals than poultry is not surveyed. Table shows results of investigations on request of the owner or veterinarian in case of clinical symptoms.

3.1.3.3 Salmonella in animal - Gallus gallus (fowl) - broilers - animal sample

Monitoring system

Sampling strategy

Broiler flocks

Testing is carried out according to the sampling requirements of the:1)Regulation (EC)2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of salmonella and other specified food-borne zoonotic agents;2)Commission Regulation (EU) No 200/2012 of 8 March 2012 concerning a Union target for the reduction of Salmonella enteritidis and Salmonella typhimurium in flocks of broilers, as provided for in Regulation (EC) No 2160/2003 of the European Parliament and of the Council;3)Regulation of Cabinet of Ministers No 741, 6 November, 2007 Order of eradication of salmonella and other food-borne zoonotic agents in poultry flocks which are direct suppliers of small quantities to final consumer. Every flock is sampled within three weeks prior to slaughter.

Frequency of the sampling

Broiler flocks: Before slaughter at farm

Every flock is sampled

Type of specimen taken

Broiler flocks: Before slaughter at farm

Socks/boot swabs

Case definition

Broiler flocks: Before slaughter at farm

A positive case is a unit (flock) confirmed positive for Salmonella. In general, the flock is the epidemiological unit.

Diagnostic/analytical methods used

Broiler flocks: Before slaughter at farm

Bacteriological method: Amendment 1 of EN/ISO 6579-2002/Amd1:2007

Other preventive measures than vaccination in place

Broiler flocks

Bio-security measures are applied at the holdings.

Measures in case of the positive findings or single cases

Broiler flocks: At slaughter (flock based approach)

-Live animals from infected flock are not allowed to leave the holding except for slaughter.-The positive flock is slaughtered at the end of the working day or on a separate line. The slaughterhouse is thoroughly cleaned and disinfected afterwards.-The premises of the infected flock are cleaned and disinfected.

Notification system in place

All Salmonella serotypes are notifiable in animals, foodstuffs, feed and humans.

3.1.3.4 Salmonella in animal - Pigs - animal sample

Additional information

Salmonellosis in other animals than poultry is not surveyed. Table shows results of investigations on request of the owner or veterinarian in case of clinical symptoms.

3.1.3.5 Salmonella in animal - Gallus gallus (fowl) - breeding flocks, unspecified - animal sample

Monitoring system

Sampling strategy

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

Testing is carried out according to the sampling requirements of the:1)Regulation (EC) 2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of salmonella and other specified food-borne zoonotic agents;2)Commission Regulation (EU) No 200/2010 of 10 March 2010 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards a Union target for the reduction of the prevalence of Salmonella serotypes in adult breeding flocks of Gallus gallus1. Samples in parent breeding flocks of Gallus gallus are taken:1.1. for day-old chicks:-rinses from the internal surfaces of the container in which the chicks have been transported to the establishment;-materials from chicks that have died during transportation;1.2. four-week old birds: pooled faecal samples;1.3. birds two weeks before starting of the laying cycle: pooled faecal samples.2. Samples in adult breeding flocks of Gallus gallus are taken every third week:2.1. in free-access flocks:-two pooled faecal samples from each building where birds are kept;or-five pairs of boots/"socks".2.2. in cage breeding flocks, depending on how faeces are collected:-two pooled faecal samples from dropping belts;or-twp pooled faecal samples from scrapers;or-two pooled faecal samples from deep pits.2.3. These samples are also taken from breeding flocks of Gallus gallus with less than 250 birds.2.4. The official samples mentioned in 2. are taken two times from adult breeding flocks of Gallus gallus by a FVS State veterinary inspector:2.4.1. within four weeks following the start of laying cycle;2.4.2. eight weeks before the end of the laying cycle;2.4.3. at any time during the laying cycle, but not close to the samples mentioned in 2.4.1. and 2.4.2.3. Sampling at the hatchery:3.1. one composite sample of visibly soiled hatcher basket liners taken at random from five separate hatcher baskets or locations in the hatcher to reach a total sampling surface of at least 1 m2; if the hatching eggs from a breeding flock occupy more than one hatcher, then such a composite sample shall taken from each hatcher up to a maximum of five; or 3.2. one sample taken with one or several moistened fabric swab(s) of at least 900 cm2 surface area in total, taken immediately after the removal of the chickens from the whole surface area of the bottom of at least a total of five hatcher baskets, or from fluff from five places, including on the floor, in each hatcher up to a maximum of five with hatched eggs from the flock, ensuring that at least one sample per flock from which eggs are derived, is taken; or3.3. 10g of broken eggshells taken from a total of 25 separate hatcher baskets, namely 250g in the initial sample, in up to five hatchers with hatched eggs from the flock, crushed, mixed and sub-sampled to from a 25g subsample for testing.3.4. every 16 weeks, the sampling provided in 3.1. or 3.2. or 3.3 must be replaced by official sampling.

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: four-week old birds and young birds two weeks before the start of the laying cycle

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

Every third week

Type of specimen taken

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

Rinses from the internal surfaces of the container and dead chickens

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

Pooled faecal samples or boots/"socks"

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

Boots/"socks"

Case definition

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

A positive case is a unit (flock) confirmed positive for Salmonella. In general, the flock is the epidemiological unit.

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

A positive case is a unit (flock, herd or individual animal) confirmed positive for Salmonella. In general, the flock is the epidemiological unit.

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

A positive case is a unit (flock) confirmed positive for Salmonella. In general, the flock is the epidemiological unit.

Diagnostic/analytical methods used

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

Bacteriological method: Amendment 1 of EN/ISO 6579-2002/Amd1:2007

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

Bacteriological method: Amendment 1 of EN/ISO 6579-2002/Amd1:2007

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

Bacteriological method: Amendment 1 of EN/ISO 6579-2002/Amd1:2007

Vaccination policy

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

Preventive vaccination against zoonotic salmonellosis agents is permitted using inactivated vaccines or live marked vaccines.

Other preventive measures than vaccination in place

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

-Bio-security measures are applied at the holdings.-Antibiotics are not used as a specific method to control Salmonella except under clearly defined exceptional circumstances as laid down in Commission Regulation (EC) No 1177/2006 of 1 August 2006 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards requirements for the use of specific control methods in the framework of national programmes for the control of Salmonella in poultry.

Measures in case of the positive findings or single cases

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

-Official trade restrictions on the animals and the products thereof are applied to the infected flock.-Live animals from the infected flock are not allowed to leave the holding except for slaughter.-The positive flock is slaughtered at the end of the working day or on a separate line. The slaughterhouse is thoroughly cleaned and disinfected afterwards.- Meat of the positive flock is heat treated according to the Community legislation on food hygiene.-Hatching eggs are not allowed to leave the holding except for destruction or further processing at an establishment producing egg products.-The premises of the infected flock are cleaned and disinfected. Restocking is allowed after an official enviromental sampling.-If Salmonella spp. are detected in a breeding flock, all other flocks in the same holding are officially sampled at the earliest convenience.-Official epidemiological investigations are carried out to clarify the origin of the Salmonella infection.

3.1.3.6 Salmonella in Ducks - breeding flocks and meat production flocks

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

Look at Salmonella spp. in animal

3.1.3.7 Salmonella in Geese - breeding flocks and meat production flocks

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

Look at Salmonella spp. in animal

3.1.3.8 Salmonella in Turkeys - fattening flocks - breeding flocks and meat production flocks

Monitoring system

Sampling strategy

Meat production flocks

Control programme is based on Commission Regulation (EU) No 1190/2012 of 12 December 2012 concerning a Union target for the reduction of Salmonella Enteritidis and Salmonella Typhimurium in flocks of turkeys, as provided for in Regulation (EC) No 2160/2003 of the European Parliament and of the Council. Every flock is sampled before slaughtering.

Type of specimen taken

Meat production flocks: Before slaughter at farm

Socks/boot swabs

Case definition

Meat production flocks: Before slaughter at farm

A positive case is a unit (flock) confirmed positive for Salmonella . In general, the flock is the epidemiological unit.

Diagnostic/analytical methods used

Meat production flocks: Before slaughter at farm

Bacteriological method: Amendment 1 of EN/ISO 6579-2002/Amd1:2007

3.2 CAMPYLOBACTERIOSIS

3.2.1 General evaluation of the national situation

3.2.1.1 Thermophilic Campylobacter spp., unspecified - general evaluation

History of the disease and/or infection in the country

Campylobacter in food has been monitored for the first time in 2004. Campylobacter in broiler flocks has been monitored for the first time in 2006 and following in 2007. In 2008 monitoring of Campylobacter in broiler flocks was carried out in the framework of the Baseline Survey on Campylobacter spp. in broiler flocks and Campylobacter spp. and Salmonella spp. in broiler carcasses (Commission Decision 2007/516/EC of 19 July 2007). From 2009 to 2016 there was no control programme in place for the thermophilic Campylobacter in food and animals. Campylobacteriosis is a notifiable disease in humans and animals.

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

Due to short and irregular monitoring of campylobacter no possible to evaluate the trends. The number of human cases is low and presumably does not reflect the real situation.

3.3 LISTERIOSIS

3.3.1 General evaluation of the national situation

3.3.1.1 Listeria - general evaluation

History of the disease and/or infection in the country

Monitoring of Listeria monocytogenes in food has been started in 2003 in the frame of a national surveillance programme. It was the first targeted control programme that has been set up additionally to the laboratory control programme, because Listeria is considered to be one of the most important microorgansims to cause human disease that may have fatal outcome. Especially the risk groups like pregnant women, newborns and small children and older people are very sensitive to Listeria infections, and there have been fatal cases in humans in the past. In 2009, the national control programme on Listeria monocytogenes was based on the Regulation (EC) No 2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of Salmonella and other specified foodborne zoonotic agents.

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

Due to short time of controlling foodstuffs and risk products no possible to evaluate trends.

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

Human cases are occurring sporadically.

3.4 YERSINIOSIS

3.4.1 General evaluation of the national situation

3.4.1.1 Yersinia - general evaluation

History of the disease and/or infection in the country

There was no program in place to control or monitor Yersinia enterocolitica in animals or food.

3.5 TRICHINELLOSIS

3.5.1 General evaluation of the national situation

3.5.1.1 Trichinella - general evaluation

History of the disease and/or infection in the country

In 2004, the Food and Veterinary Service has elaborated methodological guidelines for the veterinary expertise of pigs, cows, sheep, goats, horses and farmed and wild game at slaughterhouses determining the order and methods for detection and identification of trichinellosis agents. Guidelines are based on the requirements of Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption and etc normative acts. All the carcasses of pigs, horses, wild and farmed game are sampled and tested for Trichinella at slaughter. In cases when animals are slaughtered at home or hunted for personal consumption, it is the duty of the owner of the animals or the hunter, respectively, to ensure that meat samples are sent for laboratory testing.

3.6 ECHINOCOCCOSIS

3.6.1 General evaluation of the national situation

3.6.1.1 Echinococcus - general evaluation

History of the disease and/or infection in the country

Surveillance in productive animals is achieved trough the official meat inspection, where macroscopic investigation on hydatid cysts at the abattoir is part of the meat inspection procedure. Inspection is conducted according to the methodological guidelines of the Food and Veterinary Service for veterinary expertise of pigs, cows, sheep, goats, horses and farmed and wild game at slaughterhouses. These guidelines are based on requirements of Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption. There are no official monitoring programmes for echinococcosis in the final hosts - dogs and cats. Treatment with anti-helmintic drugs is advised.

3.7 RABIES

3.7.1 General evaluation of the national situation

3.7.1.1 Lyssavirus (rabies) - general evaluation

History of the disease and/or infection in the country

After the First World War intensive spreading of rabies occured in 1923 - when were detected 308 cases of rabies in domestic animals from which 217 cases of rabies were detected in dogs. 260 dogs become ill with rabies in 1927. Till 1950 was observed rabies called - urban rabies - because rabies cases mostly detected in dogs. Since then "urban rabies" cases decreased and increased rabies cases in wild animals. The density of red foxes and racoon dogs in Latvia has been increasing from 1,16 per square kilometre in 1998 up to 1,7 per square kilometre in 2003. The main reservoir for rabies in Latvia are red foxes and racoon dogs. The rabies cases in red foxes varied between 71 and 144 in the years from 1993 until 1999, in racoon dogs there were between 20 and 39 cases of rabies. Since the year 2000, these numbers increased and had a peak in 2003 (471 cases in red foxes, 285 cases in racoon dogs). From the year 2004 until 2006, rabies cases in red foxes varied between 165 and 187, in racoon dogs there were between 126 and 153 cases of rabies. As a result of oral vaccination of wild animals (foxes and racoon dogs) rabies cases decreased about two times in 2007 - 95 rabies cases in red foxes and 33 rabies cases in racoon dogs were diagnosed. Also in 2008 and 2009 the number of cases continued to decrease - 44 cases and 24 rabies cases respectively in red foxes and 41 cases and 24 rabies cases accordingly in racoon dogs were detected. In 2010 there were only 16 cases of rabies from which 11 rabies cases were detected in red foxes and 1 rabies cases was detected in racoon dog. One rabies case reported in 2011 - in horse, but in 2012 registered two rabies cases - one in cattle and one in dog. From 2013 no rabies cases detected.Other animals infected with rabies in the last years were for example minks, roes, martens, badgers, polecats, dogs, cats and cattle.

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

Infection generally occurs through a bite from infected animals. Wild animals (foxes and racoon dogs) are the most common source of infection in Latvia.

Additional information

First field trials for the vaccination of rabies in wildlife have been started in 1991. In certain territories the oral vaccination was performed with parenteral vaccine produced in Russian Federation. Veterinarians injected vaccine in fitted baits (for instance - in fish or chicken head) and distributed them in forests. Second strategy for rabies eradication – oral vaccination (ORV) by manufactured rabies vaccine has been started in 1998. Since 1998, twice per year in collaboration with hunters vaccine baits were distributed in a part of Latvia by hands (manual distribution) twice a year. From 2001 to 2003 entire territory of Latvia was covered with vaccine baits. However, the surveillance results showed that manual distribution of vaccine baits was not efficient. During 2004 ORV campaigns were not carried out as the new ORV strategy was elaborated. Third strategy - rabies ORV using aviation for distribution of vaccine baits were initiated in 2005 when the vaccination campaigns were carried out in spring and autumn covering the western part of the country. From 2006 till 2013 rabies bait distribution using aviation was implemented for all territory of Latvia twice a year. As average 1 600 000 vaccine baits were distributed per one campaign and 3.2 million per year, providing not less than 23 - 25 baits per km2. Latvian rabies elimination program is co-financed by the European Commission since 2005. From 2014, ORV campaign was carried out only in buffer zones (70 - 100 kilometers wide) at Eastern part of the country along Russian Federation and Belarus.

3.7.2 Lyssavirus (rabies) in animals

3.7.2.1 Lyssavirus (rabies) in animal - Dogs - animal sample

Additional information

According to requirement of the "Veterinary Medicine Law" of 26 April 2001 -all dogs must be vaccinated against rabies in accordance with leaflet provided by producer.

3.7.2.2 Rabies virus (RABV) in animal - All animals - animal sample

Monitoring system

Sampling strategy

In 2016, there were active and passive surveillance programmes in place regarding rabies. In case of suspicion of rabies in a wild animal, pet or productive animal, the owner or finder, respectively, has to report immediately to an authorized veterinarian or the FVS. In dead animals, a partial post mortem inspection is performed and brain material is taken for further investigations. For pets or productive animals under suspicion - see measures. Sampling is also performed in red foxes and racoon dogs to control the uptake of vaccine baits and to determine the antibody titer. These foxes and racoon dogs are hunted and submitted to the laboratory.

Frequency of the sampling

Foxes and racoon dogs - during hunting season. Animals found dead, suspicions - throughout the year.

Case definition

A case that is laboratory confirmed.

Diagnostic/analytical methods used

Detection of viral antigens by an immunofluorescence test in neurological tissue (brain) in connection to partial post-mortem examination. If the immunofluorescence test in neurological tissue (brain) is negative, isolation and identification of virus in cell culture is performed. Genotyping of the virus by PCR is used for further investigations.

Vaccination policy

According to requirement of the "Veterinary Medicine Law" of 26 April 2001 -all cats, dogs and ferrets must be vaccinated against rabies in accordance with leaflet provided by producer. Rabies oral vaccination (ORV) of red foxes and raccoon dogs using aviation for distribution of vaccine baits were initiated in 2005 when the vaccination campaigns were carried out in spring and autumn covering the western part of the country. From 2006 till 2013 rabies bait distribution using aviation was implemented for all territory of Latvia twice a year. As average 1 600 000 vaccine baits were distributed per one campaign and 3.2 million per year, providing not less than 23 - 25 baits per km2. Latvian rabies elimination program is co-financed by the European Commission since 2005. From 2014, ORV campaign was carried out only in buffer zones (70 - 100 kilometers wide) at Eastern part of the country along Russian Federation and Belarus.

Control program/mechanisms

The control program/strategies in place

Food and veterinary service (FVS) performs rabies surveillance in Latvia. Rabies is notifiable disease in Latvia, animal owners must immediately notify to veterinarian on animal death, abortions, simultaneous affection of several animals and any case, which arise suspicions that animal are affected by infectious disease (Law of Veterinary medicine). All measures are carried out on basis of following documents: - Law of Veterinary Medicine, 2001 - Regulation of Cabinet of Ministers No 178, 23 February, 2010 "Order of rabies eradication and control"; - Food and Veterinary Service Instruction Order No 51 (28 March, 2011) "Program on prophylaxis and eradication of Rabies"; Above mentioned documents determine measures to be taken in situations when rabies case is suspected or confirmed. Regarding oral vaccination of wildlife, there is Animal Infectious Disease State Surveillance Program, approved annually by CVO, where Chapter on oral vaccination is included. Program defines area to be vaccinated, number of vaccine baits and campaigns per year, as well as efficiency evaluation of vaccination campaigns. All rabies laboratory diagnostic tests are performed in an accredited laboratory - Institute of Food Safety, Animal Health and Environment - "BIOR" that is also National Reference laboratory for rabies in Latvia. In order to evaluate the efficiency of ORV program annually 4 target animals (foxes and raccoon dogs) per 100 km2 of the vaccinated territory are tested for the presence of biomarker tetracycline (bait uptake) and antibody level (seroconversion).

Measures in case of the positive findings or single cases

Suspected animals are put under observation for 10 days (cats, dogs and ferrets) or 15 days (other domestic animals). If the animal is vaccinated and no symptoms occur during observation, the animal is re-vaccinated. In case the animal is not vaccinated, it has to be euthanised. Brain tissue is submitted to the laboratory for further investigations.If the animal has not been vaccinated and the owner refuses to euthanise it, observation of animal for more longer period and vaccination is performed.

Notification system in place

Rabies is a notifiable disease in Latvia since 1929. According to The Veterinary Medicine Law, animal owner/keeper is obligated to immediately notify to the veterinarian on animal death, abortions, simultaneous illness of several animals and any other case, which arises suspicions that animal is affected by infectious disease. In accordance with requirements of the Regulation of Cabinet of Ministers No.178 (23.02.2010.) "Procedures for prevention and eradication of the rabies": 1) In case of suspicion of rabies in a wild animals, pets or farm animals, any person within one day has to report to practicing veterinarian or Territorial unit of the Food and Veterinary Service (FVS). In dead animals, a partial post mortem inspection is performed and brain material is taken for further investigations. 2) Positive testing results on rabies should be immediately reported by the Laboratory to Chief Veterinary Officer of FVS, Territorial Unit of the Food and Veterinary Service and responsible veterinarian. 3) If rabies has been confirmed, a Territorial Unit of the Food and Veterinary service immediately provide information to The Centre for Disease Prevention and Control (CDPC, competent authority for human health). 4) As well as Territorial unit of the Food and Veterinary service within one day approve rabies eradication plan and provide this information to the branch of State Forest Service, municipality and CDPC regarding the location of the zoonosis outbreak and measures taken to contain the disease. Municipality then informs inhabitants on rabies case and measures taken.

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

In accordance with the epidemiological surveillance data, since 1974 rabies cases in humans have been registered as follows: 1982 - 1 case in Kraslava district, source of infection: dog; 1986 - 1 case in Kraslava district, source of infection: fox; 1993 - 1 case in Saldus district, source of infection: fox; 2003 - 1 case in Daugavpils district, source of infection: dog.

3.8 Q-FEVER

3.8.1 General evaluation of the national situation

3.8.1.1 Coxiella (Q-fever) - general evaluation

History of the disease and/or infection in the country

In 2016, no control programme was existing in Latvia regarding Coxiella brunetii (Q fever) infections in animals. Samples are sent by private veterinarians.

3.9 TOXOPLASMA

3.9.1 General evaluation of the national situation

3.9.1.1 Toxoplasma - general evaluation

History of the disease and/or infection in the country

In 2016, Latvia had no monitoring programme in place to control Toxoplasma spp. in animals. Samples were sent by private veterinarians.

3.10 VTEC

3.10.1 General evaluation of the national situation

3.10.1.1 Verotoxigenic E. coli (VTEC) - general evaluation

History of the disease and/or infection in the country

In 2016, no control programme was existing in Latvia regarding VTEC infections in animals. Samples were sent by private veterinarians.

Additional information

The method used for detection of VTEC in animals is classical bacteriological method according to OIE Manual 2016 Chapter 2.9.10. More than 20 serogroups of E.coli were possible detected with antisera.

4 ANTIMICROBIAL RESISTANCE INFORMATION ON SPECIFIC ZOONOSES AND ZOONOTIC AGENTS

4.1 CAMPYLOBACTERIOSIS

4.1.1 Campylobacter in animals

4.1.1.1 Antimicrobial resistance in C. jejuni Gallus gallus (fowl)

Description of sampling designs

Sampling was carried out in one slaughterhouse, which processed more than 99% of the broilers. One pooled caecal sample was taken per broiler flock with aim to reach in total 100 pooled caecal samples per year. 10 caecum from 10 randomly selected broilers per flock were taken and pooled in one sample. As far as possible sampling distributed evenly throughout the year.

Stratification procedures per animal populations and food categories

Sampling was carried out from February untill December 2016 and samples were evenly distributed per month during this period.

Randomisation procedures per animal populations and food categories

The pooled caecal samples were divided by FVS territorial units and months. FVS territorial units randomly selected pooled caecal samples according to the determined distribution.

Sampling strategy used in monitoring

Frequency of the sampling

One representative pooled caecal sample per broiler flock was taken. Sampling was carried out in the one slaughterhouse. Sampling distributed evenly throughout the year.

Type of specimen taken

Pooled caecal sample (10 caecum) per broiler flock.

Methods of sampling (description of sampling techniques)

Each caecum was taken from bird during intestinal removing. From each bird's intestinal tract was taken one intact caecum with content, caecum was cut with 5-6 cm of the small intestine. In the case if caecum was without content, it was not taken as a sample, but was choose another caecum with intestinal contents. The birds from which takes caecum, it was recommended to select at random from all flock (instead of the first part of the flock), as well as samples were not taken from birds in a row. Ten caeca were placed in a sterile container - a plastic container with a lid (container volume ~ 200 ml) or sterile bag, to create one pooled sample.

Procedures for the selection of isolates for antimicrobial testing

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

Laboratory methodology used for identification of the microbial isolates

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

Cut-off values used in testing

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

4.2 ESCHERICHIA COLI, NON-PATHOGENIC

4.2.1 Escherichia coli, non-pathogenic in animals

4.2.1.1 Antimicrobial resistance in E.coli, non-pathogenic, unspecified Gallus gallus (fowl)

Description of sampling designs

Sampling was carried out in one slaughterhouse, which processed more than 99% of the broilers. One pooled caecal sample was taken per broiler flock with aim to reach in total 100 pooled caecal samples per year. 10 caecum from 10 randomly selected broilers per flock were taken and pooled in one sample. As far as possible sampling distributed evenly throughout the year. Enter SubTitle order number and then Subtitle Text

Stratification procedures per animal populations and food categories

Sampling was carried out from February untill December 2016 and samples were evenly distributed per month during this period.

Randomisation procedures per animal populations and food categories

The pooled caecal samples were divided by FVS territorial units and months. FVS territorial units randomly selected pooled caecal samples according to the determined distribution.

Sampling strategy used in monitoring

Frequency of the sampling

One representative pooled caecal sample per broiler flock was taken. Sampling was carried out in the one slaughterhouse. Sampling distributed evenly throughout the year.

Type of specimen taken

Pooled caecal sample (10 caecum) per broiler flock.

Methods of sampling (description of sampling techniques)

Each caecum was taken from bird during intestinal removing. From each bird's intestinal tract was taken one intact caecum with content, caecum was cut with 5-6 cm of the small intestine. In the case if caecum was without content, it was not taken as a sample, but was choose another caecum with intestinal contents. The birds from which takes caecum, it was recommended to select at random from all flock (instead of the first part of the flock), as well as samples were not taken from birds in a row. Ten caeca were placed in a sterile container - a plastic container with a lid (container volume ~ 200 ml) or sterile bag, to create one pooled sample.

Procedures for the selection of isolates for antimicrobial testing

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

Laboratory methodology used for identification of the microbial isolates

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

Cut-off values used in testing

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

4.2.1.2 Antimicrobial resistance in E.coli, non-pathogenic, unspecified Meat from broilers (Gallus gallus)

Description of sampling designs

Sampling was carried at retail. In total 95 fresh broiler meat were taken. The sampling plan was stratified per territorial units of Food and Veterinary service by allocating the number of samples collected per each territorial unit per month. Sampling was carried out from February untill November 2016 and samples more or less were evenly distributed per month during this period.

Stratification procedures per animal populations and food categories

Sampling was carried at retail. In total 95 fresh broiler meat were taken. The sampling plan was stratified per territorial units of Food and Veterinary service by allocating the number of samples collected per each territorial unit per month. Sampling was carried out from February untill November 2016 and samples more or less were evenly distributed per month during this period.

Randomisation procedures per animal populations and food categories

The fresh meat samples were divided by FVS territorial units and months. FVS territorial units randomly selected fresh meat samples at retail according to the determined distribution.

Sampling strategy used in monitoring

Frequency of the sampling

The sampling plan was stratified per territorial units of Food and Veterinary service by allocating the number of samples collected per each territorial unit per month. Sampling was carried out from February untill November 2016 and samples were evenly distributed per month during this period.

Type of specimen taken

Samples of fresh broiler meat gathered at retail .

Methods of sampling (description of sampling techniques)

State food inspectors of the Food and veterinary service are taking the samples of fresh broiler meat at retail.

Procedures for the selection of isolates for antimicrobial testing

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

Laboratory methodology used for identification of the microbial isolates

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

Laboratory used for detection for resistance

Antimicrobials included in monitoring

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

Cut-off values used in testing

According to requirements of Commission implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

5 FOODBORNE OUTBREAKS

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.

5.1 Outbreaks

5.1.1 Foodborne outbreaks

System in place for identification, epidemological investigations and reporting of foodborne outbreaks

Food-borne diseases are notified by clinicians in cases of suspected infectious disease, a change or discharge of diagnosis of an infectious disease, the final diagnosis and outcome of infectious disease and laboratory confirmation of the diagnosis. Epidemiologists of the Centre for Disease Prevention and Control of Latvia (in latvian - SPKC) receive information from clinicians and perform investigation of the cases (outbreaks), take environmental samples for laboratory investigation, collect, store and analyze the epidemiological data, organize preventive and control measures.

Description of the types of outbreaks covered by the reporting:

In 2016, altogether 49 food-borne outbreaks were registered, including 37 household, 12 general (registered mainly in kindergartens and schools)

National evaluation of the reported outbreaks in the country:

Trends in numbers of outbreaks and numbers of human cases involved

Altogether 425 cases were registered, including hospitalized - 97.

Relevance of the different causative agents, food categories and the agent/food category combinations

Among all outbreaks 57.1% were caused by Salmonella spp., 14.3% by Norwalk virus, 10,2% - by Rotavirus, 2.04% - by Yersinia enterocolitica and Campylobacter, and 2.04% were related to causative agents of unknown aethyology.

Evaluation of the severity and clinical picture of the human cases

We do not collect clinical information.

Descriptions of single outbreaks of special interest

Outbreak investigation includes recommendations from the Public health specialists, as well control and penalty measures (if necessary - closure) by other control institutions, Food Veteriary Service and Health Inspection, working together with the Centre for Disease Prevention and Control of Latvia.

ANIMAL POPULATION TABLES

Table Susceptible animal population

		Population			
Animal species	**Category of animals**	**holding**	**animal**	**slaughter animal (heads)**	**herd/flock**
Cattle (bovine animals)	Cattle (bovine animals)	23,913	412,314	93,496	23,913
Deer	Deer - farmed	133	14,018		133
Gallus gallus (fowl)	Gallus gallus (fowl) - broilers	3	2,017,717	17,692,008	70
	Gallus gallus (fowl) - laying hens	13	2,826,297		49
	Gallus gallus (fowl) - parent breeding flocks for broiler production line	1	217,704		35
Goats	Goats	2,363	13,159	93	2,363
Pigs	Pigs	3,964	334,082	452,533	3,964
Quails	Quails - laying hens	36	15,903		36
Sheep	Sheep	3,709	106,629	22,273	3,709
Solipeds, domestic	Solipeds, domestic	3,282	9,278	67	3,282
Turkeys	Turkeys - fattening flocks	1	13,182	4,061	9

DISEASE STATUS TABLES

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

Region	Number of herds with status officially free	Number of infected herds	Total number of herds
LATVIJA (NUTS level 1)	23,913	0	23,913

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

Region	Number of herds with status officially free	Number of infected herds	Total number of herds
LATVIJA (NUTS level 1)	6,072	0	6,072

DISEASE STATUS TABLES

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

Region	Number of herds with status officially free	Number of infected herds	Total number of herds
LATVIJA (NUTS level 1)	23,913	0	23,913

PREVALENCE TABLES

Table BRUCELLA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Pigs - breeding animals - Farm - Latvia - animal sample - blood - Control and eradication programmes - Industry sampling - Objective sampling	animal	11294	0	Brucella	0
	Pigs - breeding animals - Farm - Latvia - animal sample - organ/tissue - Control and eradication programmes - Industry sampling - Objective sampling	animal	8	0	Brucella	0
	Pigs - breeding animals - unspecified - sows - Farm - Latvia - animal sample - foetus/stillbirth - Control and eradication programmes - Industry sampling - Objective sampling	animal	15	0	Brucella	0

Table CAMPYLOBACTER in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cats - pet animals - Veterinary clinics - Latvia - animal sample - faeces - Clinical investigations - Not applicable - Suspect sampling	animal	13	0	Campylobacter	0
	Cattle (bovine animals) - adult cattle over 2 years - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal	6	0	Campylobacter	0
	Cattle (bovine animals) - adult cattle over 2 years - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal	180	0	Campylobacter	0
	Cattle (bovine animals) - calves (under 1 year) - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal	31	6	Campylobacter coli	2
					Campylobacter jejuni	4
	Dogs - pet animals - Veterinary clinics - Latvia - animal sample - faeces - Clinical investigations - Not applicable - Suspect sampling	animal	26	1	Campylobacter jejuni	1
	Gallus gallus (fowl) - broilers - Slaughterhouse - Latvia - animal sample - caecum - Monitoring - Official sampling - Objective sampling	herd/flock	100	48	Campylobacter jejuni	48
	Goats - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal	3	0	Campylobacter	0
	Pigs - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal	10	0	Campylobacter	0
	Sheep - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal	26	0	Campylobacter	0

Table ECHINOCOCCUS in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cattle (bovine animals) - Slaughterhouse - Latvia - Not Available - Surveillance - Official sampling - Census	animal	93496	0	Echinococcus	0
	Goats - Slaughterhouse - Latvia - Not Available - Surveillance - Official sampling - Census	animal	93	0	Echinococcus	0
	Pigs - fattening pigs - not raised under controlled housing conditions - Slaughterhouse - Latvia - Not Available - Surveillance - Official sampling - Census	animal	452533	0	Echinococcus	0
	Sheep - Slaughterhouse - Latvia - Not Available - Surveillance - Official sampling - Census	animal	22273	0	Echinococcus	0
	Solipeds, domestic - horses - Slaughterhouse - Latvia - Not Available - Surveillance - Official sampling - Census	animal	67	0	Echinococcus	0

Table ESCHERICHIA COLI in food

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Meat from deer (venison) - meat products - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Verocytotoxigenic E. coli (VTEC)	0
	Meat from pig - meat products - cooked, ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Verocytotoxigenic E. coli (VTEC)	0
	Meat from pig - meat products - cooked, ready-to-eat - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Verocytotoxigenic E. coli (VTEC)	0
	Meat from turkey - meat products - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Verocytotoxigenic E. coli (VTEC)	0
	Meat, mixed meat - meat preparation - intended to be eaten raw - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	55	0	Verocytotoxigenic E. coli (VTEC)	0
	Meat, mixed meat - meat preparation - intended to be eaten raw - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	75	2	VTEC O157	2
	Meat, mixed meat - meat preparation - intended to be eaten raw - Retail - Spain - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	10	0	Verocytotoxigenic E. coli (VTEC)	0
	Seeds, sprouted - non-ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	10	0	Verocytotoxigenic E. coli (VTEC)	0

Table ESCHERICHIA COLI, NON-PATHOGENIC in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Gallus gallus (fowl) - broilers - Slaughterhouse - Latvia - animal sample - caecum - Monitoring - Official sampling - Objective sampling	herd/flock	100	100	Escherichia coli, non-pathogenic	100

Table HISTAMINE in food

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Method	Zoonoses	N of units tested	N of units positive
Not Available	Fishery products, unspecified - Processing plant - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	45	1	<= 100	Histamine	0	6
							>100 TO <= 200	Histamine	0	2
							>200 TO <= 400	Histamine	0	3

Table LISTERIA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cattle (bovine animals) - adult cattle over 2 years - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal	180	22	Listeria innocua	16
					Listeria monocytogenes	6
					Listeria spp., unspecified	2
	Cattle (bovine animals) - calves (under 1 year) - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal	6	0	Listeria	0
	Cattle (bovine animals) - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal	8	0	Listeria	0
	Goats - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal	3	1	Listeria monocytogenes	1
	Pigs - breeding animals - unspecified - sows - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal	15	1	Listeria monocytogenes	1
	Sheep - animals over 1 year - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal	26	2	Listeria monocytogenes	2
	Sheep - animals over 1 year - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal	15	1	Listeria monocytogenes	1

Table LISTERIA in food

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Method	Zoonoses	N of units tested	N of units positive
Not Available	Cheeses made from cows' milk - fresh - made from pasteurised milk - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	10	0	<= 100	Listeria monocytogenes	10	0
							>100	Listeria monocytogenes	10	0
	Cheeses made from cows' milk - fresh - made from pasteurised milk - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	20	0	<= 100	Listeria monocytogenes	20	0
							>100	Listeria monocytogenes	20	0
	Cheeses made from cows' milk - fresh - made from pasteurised milk - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	20	0	<= 100	Listeria monocytogenes	20	0
							>100	Listeria monocytogenes	20	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	5	0	<= 100	Listeria monocytogenes	5	0
							>100	Listeria monocytogenes	5	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	30	0	<= 100	Listeria monocytogenes	30	0
							>100	Listeria monocytogenes	30	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	20	0	<= 100	Listeria monocytogenes	20	0
							>100	Listeria monocytogenes	20	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	10	0	<= 100	Listeria monocytogenes	10	0
							>100	Listeria monocytogenes	10	0
	Fish - smoked - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	45	0	<= 100	Listeria monocytogenes	45	0
							>100	Listeria monocytogenes	45	0
	Fish - smoked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	40	0	<= 100	Listeria monocytogenes	40	0
							>100	Listeria monocytogenes	40	0
	Fishery products, unspecified - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	10	0	<= 100	Listeria monocytogenes	10	0
							>100	Listeria monocytogenes	10	0
	Fishery products, unspecified - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	5	0	<= 100	Listeria monocytogenes	5	0
							>100	Listeria monocytogenes	5	0
	Meat from pig - meat products - cooked, ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	30	0	<= 100	Listeria monocytogenes	30	0
							>100	Listeria monocytogenes	30	0
	Meat from pig - meat products - cooked, ready-to-eat - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	5	0	<= 100	Listeria monocytogenes	5	0
							>100	Listeria monocytogenes	5	0
	Meat from pig - meat products - cooked, ready-to-eat - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	10	0	<= 100	Listeria monocytogenes	10	0
							>100	Listeria monocytogenes	10	0
	Meat, mixed meat - meat preparation - intended to be eaten raw - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	10	0	<= 100	Listeria monocytogenes	10	0
							>100	Listeria monocytogenes	10	0
	Meat, mixed meat - meat preparation - intended to be eaten raw - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	50	0	<= 100	Listeria monocytogenes	50	0
							>100	Listeria monocytogenes	50	0
	Meat, mixed meat - meat preparation - intended to be eaten raw - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	35	0	<= 100	Listeria monocytogenes	35	0
							>100	Listeria monocytogenes	35	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Method	Zoonoses	N of units tested	N of units positive
Not Available	Meat, mixed meat - meat preparation - intended to be eaten raw - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	5	0	<= 100	Listeria monocytogenes	5	0
							>100	Listeria monocytogenes	5	0
	Meat, mixed meat - meat preparation - intended to be eaten raw - Retail - Spain - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	5	0	<= 100	Listeria monocytogenes	5	0
							>100	Listeria monocytogenes	5	0
	Seeds, sprouted - non-ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	10	0	<= 100	Listeria monocytogenes	10	0
							>100	Listeria monocytogenes	10	0

Table LYSSAVIRUS in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Latvija (NUTS level 2)	Badgers - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	14	0	Lyssavirus	0
	Cats - Veterinary clinics - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	26	0	Lyssavirus	0
	Cattle (bovine animals) - Farm - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	6	0	Lyssavirus	0
	Deer - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	1	0	Lyssavirus	0
	Dogs - Veterinary clinics - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	13	0	Lyssavirus	0
	Foxes - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	532	0	Lyssavirus	0
	Hedgehogs - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	2	0	Lyssavirus	0
	Lynx - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	1	0	Lyssavirus	0
	Marten - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	4	0	Lyssavirus	0
	Polecats - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	3	0	Lyssavirus	0
	Raccoon dogs - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	627	0	Lyssavirus	0
	Squirrels - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	1	0	Lyssavirus	0
	Wild boars - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	animal	2	0	Lyssavirus	0

Table MYCOBACTERIUM in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cattle (bovine animals) - Farm - Latvia - Not Available - Surveillance - Official sampling - Objective sampling	animal	3322	0	Mycobacterium	0
	Gallus gallus (fowl) - laying hens - adult - Farm - Latvia - Not Available - Surveillance - Industry sampling - Objective sampling	animal	304	0	Mycobacterium	0
	Pigs - Farm - Latvia - Not Available - Surveillance - Industry sampling - Objective sampling	animal	274	0	Mycobacterium	0

Table SALMONELLA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	N of flocks under control programme	Target verification	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cattle (bovine animals) - calves (under 1 year) - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	29	3	Salmonella Typhimurium	3
	Cattle (bovine animals) - calves (under 1 year) - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	40	2	Salmonella Typhimurium	2
	Cattle (bovine animals) - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	9	0	Salmonella	0
	Cattle (bovine animals) - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	180	0	Salmonella	0
	Cattle (bovine animals) - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	21	0	Salmonella	0
	Ducks - meat production flocks - Farm - Latvia - environmental sample - boot swabs - Surveillance - Industry sampling - Objective sampling	herd/flock		N_A	3	1	Salmonella Senftenberg	1
	Fur animals - farmed - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	14	0	Salmonella	0
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	715	N	715	28	Salmonella Coeln	28
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	719	Y	719	28	Salmonella Coeln	28
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Objective sampling	herd/flock	4	N	4	0	Salmonella	0
	Gallus gallus (fowl) - laying hens - adult - Farm - Latvia - environmental sample - boot swabs - Surveillance - Official and industry sampling - Objective sampling	herd/flock		N_A	100	11	Salmonella Enteritidis	9
							Salmonella Mbandaka	1
							Salmonella Typhimurium	1
	Gallus gallus (fowl) - laying hens - adult - Farm - Latvia - environmental sample - boot swabs and dust - Control and eradication programmes - Official and industry sampling - Census	herd/flock	49	Y	49	1	Salmonella Enteritidis	1
	Gallus gallus (fowl) - laying hens - day-old chicks - Farm - Not Available - animal sample - organ/tissue - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	15	0	Salmonella	0
	Gallus gallus (fowl) - laying hens - during rearing period - Farm - Latvia - animal sample - faeces - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	23	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	31	Y	31	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - Farm - Finland - animal sample - organ/tissue - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	20	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock		N_A	26	1	Salmonella Coeln	1
	Pigs - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	10	0	Salmonella	0
	Pigs - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	15	0	Salmonella	0
	Pigs - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	32	0	Salmonella	0
	Quails - laying hens - Farm - Latvia - animal sample - faeces - Surveillance - Official sampling - Objective sampling	herd/flock		N_A	36	2	Salmonella Coeln	1
							Salmonella Indiana	1
	Sheep - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	3	0	Salmonella	0
	Sheep - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	26	0	Salmonella	0
	Sheep - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	11	1	Salmonella enterica, subspecies diarizonae	1

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	N of flocks under control programme	Target verification	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Turkeys - fattening flocks - before slaughter - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	7	N	7	0	Salmonella	0
	Turkeys - fattening flocks - before slaughter - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	9	Y	9	0	Salmonella	0
	Turkeys - fattening flocks - before slaughter - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Objective sampling	herd/flock	2	N	2	0	Salmonella	0

Table SALMONELLA in food

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cheeses made from cows' milk - fresh - made from pasteurised milk - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	40	0	Salmonella	0
	Cheeses made from cows' milk - fresh - made from pasteurised milk - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	10	0	Salmonella	0
	Cheeses made from cows' milk - fresh - made from pasteurised milk - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Salmonella	0
	Dairy products (excluding cheeses) - butter - made from pasteurised milk - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Salmonella	0
	Dairy products (excluding cheeses) - butter - made from pasteurised milk - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	10	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	15	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	75	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	20	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	25	0	Salmonella	0
	Egg products - liquid - Processing plant - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	30	0	Salmonella	0
	Fish - smoked - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	55	0	Salmonella	0
	Fish - smoked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	10	0	Salmonella	0
	Fishery products, unspecified - Retail - Belarus - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	20	0	Salmonella	0
	Fishery products, unspecified - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	75	0	Salmonella	0
	Fishery products, unspecified - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	50	0	Salmonella	0
	Fishery products, unspecified - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Meat from bovine animals - carcase - Slaughterhouse - Latvia - food sample - carcase swabs - Surveillance - Official sampling - Objective sampling	slaughter animal batch	100	Square centimetre	100	0	Salmonella	0
	Meat from broilers (Gallus gallus) - carcase - Slaughterhouse - Latvia - food sample - neck skin - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	50	5	Salmonella Coeln	5
	Meat from broilers (Gallus gallus) - fresh - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	15	1	Salmonella Enteritidis	1
	Meat from broilers (Gallus gallus) - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	155	1	Salmonella Typhimurium	1
	Meat from broilers (Gallus gallus) - fresh - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	115	4	Salmonella Derby	1
							Salmonella Infantis	3
	Meat from broilers (Gallus gallus) - fresh - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	65	3	Salmonella Enteritidis	2
							Salmonella Kentucky	1
	Meat from broilers (Gallus gallus) - meat products - raw and intended to be eaten raw - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	15	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - raw and intended to be eaten raw - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Salmonella	0
	Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	10	0	Salmonella	0
	Meat from pig - carcase - Slaughterhouse - Latvia - food sample - carcase swabs - Control and eradication programmes - HACCP and own check - Census	single (food/feed)	400	Square centimetre	584	0	Salmonella	0
	Meat from pig - carcase - Slaughterhouse - Latvia - food sample - carcase swabs - Surveillance - Official sampling - Objective sampling	slaughter animal batch	100	Square centimetre	400	0	Salmonella	0
	Meat from pig - meat preparation - intended to be eaten cooked - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	5	0	Salmonella	0
	Meat from pig - meat preparation - intended to be eaten cooked - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	50	1	Salmonella Bovismorbificans	1
	Meat from pig - meat preparation - intended to be eaten cooked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	35	11	Salmonella Derby	9
							Salmonella Typhimurium	2
	Meat from pig - meat products - cooked, ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	15	0	Salmonella	0
	Meat from pig - meat products - cooked, ready-to-eat - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	10	0	Salmonella	0
	Meat from pig - minced meat - intended to be eaten cooked - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	15	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Meat from pig - minced meat - intended to be eaten cooked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	5	0	Salmonella	0
	Meat from pig - minced meat - intended to be eaten cooked - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	15	0	Salmonella	0
	Meat from poultry, unspecified - meat preparation - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	10	0	Salmonella	0
	Meat from poultry, unspecified - meat preparation - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	30	0	Salmonella	0
	Meat, mixed meat - meat products - cooked, ready-to-eat - Retail - Denmark - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	10	0	Salmonella	0
	Meat, mixed meat - meat products - cooked, ready-to-eat - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	35	0	Salmonella	0
	Meat, mixed meat - meat products - cooked, ready-to-eat - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Salmonella	0
	Meat, mixed meat - meat products - cooked, ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	115	0	Salmonella	0
	Meat, mixed meat - meat products - cooked, ready-to-eat - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	50	0	Salmonella	0
	Meat, mixed meat - meat products - cooked, ready-to-eat - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	10	0	Salmonella	0
	Seeds, sprouted - non-ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	10	0	Salmonella	0

Table SALMONELLA in feed

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Compound feedingstuffs for pigs - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Salmonella	0
	Compound feedingstuffs for poultry (non specified) - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	2	1	Salmonella Enteritidis	1
	Compound feedingstuffs for poultry, breeders - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	1	0	Salmonella	0
	Compound feedingstuffs for poultry, broilers - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	3	0	Salmonella	0
	Compound feedingstuffs for poultry, laying hens - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	16	1	Salmonella Enteritidis	1
							Salmonella Infantis	1
	Feed material of land animal origin - animal fat - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	1	0	Salmonella	0
	Feed material of land animal origin - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	2	1	Salmonella Enteritidis	1
	Feed material of marine animal origin - fish meal - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	5	0	Salmonella	0
	Feed material of oil seed or fruit origin - rape seed derived - Feed mill - Ukraine - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	2	2	Salmonella Senftenberg	2
							Salmonella Tennessee	1
	Pet food - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	3	0	Salmonella	0

Table TOXOPLASMA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cats - pet animals - Veterinary clinics - Latvia - animal sample - blood - Clinical investigations - Not applicable - Suspect sampling	animal	105	23	Toxoplasma gondii	23
	Dogs - pet animals - Veterinary clinics - Latvia - animal sample - blood - Clinical investigations - Not applicable - Suspect sampling	animal	69	24	Toxoplasma gondii	24
	Goats - Farm - Latvia - animal sample - blood - Clinical investigations - Industry sampling - Suspect sampling	animal	12	7	Toxoplasma gondii	7
	Sheep - Farm - Latvia - animal sample - blood - Clinical investigations - Industry sampling - Suspect sampling	animal	32	10	Toxoplasma gondii	10

Table TRICHINELLA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Badgers - wild - Hunting - Latvia - animal sample - organ/tissue - Monitoring - Not applicable - Census	animal	1	0	Trichinella	0
	Bears - wild - Hunting - Latvia - animal sample - organ/tissue - Monitoring - Not applicable - Census	animal	4	3	Trichinella, unspecified sp.	3
	Beavers - wild - Hunting - Latvia - animal sample - organ/tissue - Monitoring - Not applicable - Census	animal	7	0	Trichinella	0
	Lynx - wild - Hunting - Latvia - animal sample - organ/tissue - Monitoring - Not applicable - Census	animal	3	3	Trichinella, unspecified sp.	3
	Pigs - fattening pigs - not raised under controlled housing conditions - Slaughterhouse - Latvia - animal sample - organ/tissue - Surveillance - Official sampling - Census	animal	452533	0	Trichinella	0
	Solipeds, domestic - horses - Slaughterhouse - Latvia - animal sample - organ/tissue - Surveillance - Official sampling - Census	animal	67	0	Trichinella	0
	Wild boars - wild - Hunting - Latvia - animal sample - organ/tissue - Surveillance - Official sampling - Census	animal	7312	47	Trichinella, unspecified sp.	47

Table YERSINIA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cattle (bovine animals) - calves (under 1 year) - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal	29	1	Yersinia pseudotuberculosis	1
	Cattle (bovine animals) - calves (under 1 year) - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal	32	0	Yersinia	0
	Cattle (bovine animals) - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal	6	0	Yersinia	0
	Cattle (bovine animals) - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal	6	0	Yersinia	0
	Pigs - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal	17	0	Yersinia	0
	Sheep - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal	2	0	Yersinia	0

FOODBORNE OUTBREAKS TABLES

Foodborne Outbreaks: summarized data

		Outbreak strenght	Weak		
Causative agent	**Food vehicle**	**N outbreaks**	**N human cases**	**N hospitalized**	**N deaths**
Campylobacter jejuni	Unknown	1	2	0	0
Norovirus	Unknown	8	141	15	0
Rotavirus	Unknown	5	11	11	0
Salmonella Ball	Unknown	1	2	0	0
Salmonella Enteritidis	Unknown	24	194	45	0
Salmonella Typhimurium	Unknown	3	20	6	0
Tick-borne encephalitis virus (TBE)	Milk	1	2	0	0
Unknown	Unknown	1	29	2	0
Yersinia enterocolitica	Unknown	1	2	0	0

Strong Foodborne Outbreaks: detailed data

No data returned for this view. This might be because the applied filter excludes all data.

Weak Foodborne Outbreaks: detailed data

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Campylobacter jejuni	unk	N_A	Household / domestic kitchen	Unknown	N_A	Unknown	Household	Household	Unknown	NOT AVAILABLE	N_A	1	2	0	0
Norovirus	unk	N_A	General	Unknown	N_A	Unknown	Residential institution (nursing home or prison or boarding school)	Unknown	Unknown	NOT AVAILABLE	Norovirus+Adenovirus	1	40	0	0
							School or kindergarten	Travel abroad	Unknown	NOT AVAILABLE	N_A	3	92	10	0
			Household / domestic kitchen	Unknown	N_A	Unknown	Household	Unknown	Unknown	NOT AVAILABLE	N_A	4	9	5	0
Rotavirus	unk	N_A	General	Unknown	N_A	Unknown	School or kindergarten	Unknown	Unknown	NOT AVAILABLE	N_A	1	3	3	0
			Household / domestic kitchen	Unknown	N_A	Unknown	Household	Unknown	Unknown	NOT AVAILABLE	N_A	4	8	8	0
Salmonella Ball	unk	N_A	General	Unknown	N_A	Unknown	Household	Unknown	Unknown	NOT AVAILABLE	N_A	1	2	0	0
Salmonella Enteritidis	unk	N_A	General	Unknown	N_A	Unknown	School or kindergarten	Unknown	Unknown	NOT AVAILABLE	N_A	3	138	19	0
			Household / domestic kitchen	Unknown	N_A	Unknown	Household	Unknown	Unknown	NOT AVAILABLE	N_A	21	56	26	0
Salmonella Typhimurium	unk	N_A	General	Unknown	N_A	Unknown	School or kindergarten	Unknown	Unknown	NOT AVAILABLE	N_A	1	16	4	0
			Household / domestic kitchen	Unknown	N_A	Unknown	Household	Unknown	Unknown	NOT AVAILABLE	N_A	2	4	2	0

Causative agent	Other Causative Agent	FBO nat. code	Outbreak type	Food vehicle	More food vehicle info	Nature of evidence	Setting	Place of origin of problem	Origin of food vehicle	Contributory factors	Comment	N outbreaks	N human cases	N hosp.	N deaths
Tick-borne encephalitis virus (TBE)	unk	N_A	Household / domestic kitchen	Milk	N_A	Descriptive environmental evidence	Household	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Unknown	NOT AVAILABLE	N_A	1	2	0	0
Unknown	unk	N_A	General	Unknown	N_A	Unknown	School or kindergarten	School or kindergarten	Unknown	NOT AVAILABLE	N_A	1	29	2	0
Yersinia enterocolitica	unk	N_A	Household / domestic kitchen	Unknown	N_A	Unknown	Household	Household	Unknown	NOT AVAILABLE	N_A	1	2	0	0

ANTIMICROBIAL RESISTANCE TABLES FOR CAMPYLOBACTER

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

Sampling Stage: Slaughterhouse | Sampling Type: animal sample - caecum | Sampling Context: Monitoring

Sampler: Official sampling | Sampling Strategy: Objective sampling | Programme Code: AMR MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling details: N_A

	AM substance	Ciprofloxacin	Erythromycin (Erythromycin A)	Gentamicin	Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**	**4**	**2**	**16**	**4**	**1**
	Lowest limit	**0.12**	**1**	**0.12**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**128**	**16**	**64**	**16**	**64**
	N of tested isolates	**48**	**48**	**48**	**48**	**48**	**48**
MIC	**N of resistant isolates**	**47**	**0**	**0**	**46**	**20**	**31**
<=0.12		1		8			
0.25				20			
<=0.5							17
0.5				20		2	
<=1			48				
1						12	
2		1				14	
4		25					
8		3			1	1	
16		17			1	1	
>16		1				18	
32					15		4
64					11		12
>64					20		15

ANTIMICROBIAL RESISTANCE TABLES FOR SALMONELLA

Table Antimicrobial susceptibility testing of Salmonella Coeln in Meat from broilers (Gallus gallus) - carcase

Sampling Stage: Processing plant

Sampling Type: food sample - neck skin

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.015							5								
<=0.03										5					
<=0.25				5										5	5
<=0.5					5				5						
<=1		5						5							
<=2													5		
<=4											5				
<=8						5									
8			5												
64												5			

Table Antimicrobial susceptibility testing of Salmonella Coeln in Quails - laying hens

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**
<=0.015							1								
<=0.03										1					
<=0.25				1											1
<=0.5					1				1						
0.5														1	
<=1		1						1							
<=2													1		
<=4											1				
<=8						1									
8			1												
1024												1			

Table Antimicrobial susceptibility testing of Salmonella Coeln in Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Control and eradication programmes

Sampler: Official sampling

Sampling Strategy: Census

Programme Code: OTHER AMR MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.03										1					
0.03							1								
<=0.25				1										1	1
<=0.5					1				1						
<=1		1						1							
<=2													1		
<=4											1				
4			1												
<=8						1									
64												1			

Table Antimicrobial susceptibility testing of Salmonella Enteritidis in Gallus gallus (fowl) - laying hens - adult

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
<=0.015							3								
<=0.03										8					
0.03							4								
0.064							1			1					
<=0.25				9										8	7
<=0.5					9				9						
0.5							1							1	2
<=1		5						3							
<=2													9		
2		3						2							
<=4											7				
4			2					2							
<=8						8									
8			5					2			1				
16		1	2			1									
32												3			
64												5			
128												1			
>128											1				

Table Antimicrobial susceptibility testing of Salmonella Enteritidis in Gallus gallus (fowl) - laying hens - adult

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs and dust

Sampling Context: Control and eradication programmes

Sampler: Official and industry sampling

Sampling Strategy: Census

Programme Code: AMR MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.015							2								
<=0.03										2					
<=0.25				2										2	2
<=0.5					2				2						
<=1		2													
<=2													2		
<=4											2				
4			2					2							
<=8						2									
64												2			

Table Antimicrobial susceptibility testing of Salmonella Indiana in Quails - laying hens

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.015							1								
<=0.03										1					
<=0.25				1										1	1
<=0.5					1				1						
<=1		1						1							
<=2													1		
<=4											1				
<=8						1									
8			1												
32												1			

Table Antimicrobial susceptibility testing of Salmonella Mbandaka in Gallus gallus (fowl) - laying hens - adult

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.015							1								
<=0.03										1					
<=0.25				1										1	1
<=0.5					1				1						
<=1		1						1							
<=2													1		
<=4											1				
<=8						1									
8			1												
64												1			

Table Antimicrobial susceptibility testing of Salmonella Senftenberg in Ducks - meat production flocks

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.015							1								
<=0.03										1					
<=0.25				1										1	1
<=0.5					1				1						
<=1		1						1							
<=2													1		
<=4											1				
<=8						1									
8			1												
16												1			

Table Antimicrobial susceptibility testing of Salmonella Typhimurium in Gallus gallus (fowl) - laying hens - adult

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0.03							1								
0.064										1					
<=0.25				1										1	1
<=0.5					1				1						
<=1		1						1							
<=2													1		
<=4											1				
4			1												
<=8						1									
16												1			

ANTIMICROBIAL RESISTANCE TABLES FOR INDICATOR ESCHERICHIA COLI

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from broilers (Gallus gallus) - fresh

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON pnl2

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Lithuania

Sampling Details: N_A

AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid	Ertapenem	Imipenem	Meropenem	Temocillin
Cefotaxime synergy test	Not Available	Not Available	Negative/Absent	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Negative/Absent	Not Available	Not Available	Not Available	Not Available
ECOFF	0.125	0.25	0.25	8	0.5	0.5	0.06	0.5	0.125	32
Lowest limit	0.064	0.25	0.064	0.5	0.25	0.12	0.015	0.12	0.03	0.5
Highest limit	32	64	64	64	128	128	2	16	16	128
N of tested isolates	5	5	5	5	5	5	5	5	5	5
N of resistant isolates	5	5	5	5	5	5	0	0	0	0
MIC										
<=0.015							1			
<=0.03									5	
0.03							2			
0.064							2			
<=0.12								4		
0.25	5							1		
1										2
4			2							1
8		5	3		3	3				2
16					2	2				
64				3						

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid	Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Negative/Absent	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Negative/Absent	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	8	0.5	0.5	0.06	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.5	0.25	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	128	128	2	16	16	128
	N of tested isolates	5	5	5	5	5	5	5	5	5	5
MIC	N of resistant isolates	5	5	5	5	5	5	0	0	0	0
>64					2						

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from broilers (Gallus gallus) - fresh

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Lithuania

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
MIC	**N of resistant isolates**	**5**	**0**	**5**	**5**	**2**	**5**	**0**	**1**	**0**	**5**	**5**	**4**	**0**	**5**
<=0.03										5					
<=0.25														5	
0.25							1								
<=1								5							
1							3		4						
<=2													1		
2				1											
>4				4											
<=8						3									
8			5		3		1								
>8					2										
32									1						
>32															5
>64		5											4		
>128						2					5				
>1024												5			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from broilers (Gallus gallus) - fresh

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON pnl2

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**		**Not Available**	**Not Available**	**Not Available**	**Not Available**
Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
ECOFF	**0.125**	**0.25**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.5**	**0.06**	**0.5**	**0.125**	**32**
Lowest limit	**0.064**	**0.25**	**0.064**	**0.064**	**0.5**	**0.25**	**0.12**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
Highest limit	**32**	**64**	**64**	**64**	**64**	**128**	**128**	**128**	**2**	**16**	**16**	**128**
N of tested isolates	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**
MIC **N of resistant isolates**	**60**	**65**	**5**	**5**	**5**	**64**	**5**	**5**	**0**	**0**	**0**	**0**
<=0.015									68			
<=0.03											71	
0.03									3			
<=0.064	6		59	6								
<=0.12							56	6		62		
0.12	5		1									
<=0.25		6				6						
0.25	1						4			9		
0.5	11			2		1						
1	33	3		1		3		2				
2	12	5			8	5		1				3
4	3	29		2	43	29		1				58
8		21			15	24		1				10
16		6			3	3						

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available		Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	0.25	8	0.5	0.5	0.5	0.06	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.064	0.5	0.25	0.12	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	64	128	128	128	2	16	16	128
	N of tested isolates	71	71	71	71	71	71	71	71	71	71	71	71
MIC	N of resistant isolates	60	65	5	5	5	64	5	5	0	0	0	0
64			1			2							

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from broilers (Gallus gallus) - fresh

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**
MIC	**N of resistant isolates**	**68**	**0**	**65**	**64**	**13**	**40**	**0**	**0**	**0**	**23**	**32**	**37**	**0**	**6**
<=0.015							30								
<=0.03										70					
0.03							1								
0.064										1					
0.12							2								
<=0.25				6										67	50
0.25							19								
<=0.5					7				56						
0.5							9							4	15
<=1								69							
1				4	2		6		15						
<=2			12										34		
2	2			5	6		1	2							
<=4											31				
4		41	24	31											
>4			32												
<=8						58						19			
8	1	18		20		3					5				
>8				5											
16											12	15			
32						1					1	5			

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**
MIC	**N of resistant isolates**	**68**	**0**	**65**	**64**	**13**	**40**	**0**	**0**	**0**	**23**	**32**	**37**	**0**	**6**
>32															6
64						4					5		9		
>64		68											28		
128						8					8				
>128											9				
>1024												32			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from broilers (Gallus gallus) - fresh

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON pnl2

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Poland

Sampling Details: N_A

AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**		**Not Available**	**Not Available**	**Not Available**	**Not Available**
Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Negative/Absent**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
ECOFF	**0.125**	**0.25**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.5**	**0.06**	**0.5**	**0.125**	**32**
Lowest limit	**0.064**	**0.25**	**0.064**	**0.064**	**0.5**	**0.25**	**0.12**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
Highest limit	**32**	**64**	**64**	**64**	**64**	**128**	**128**	**128**	**2**	**16**	**16**	**128**
N of tested isolates	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**
MIC **N of resistant isolates**	**12**	**17**	**6**	**6**	**6**	**17**	**6**	**6**	**0**	**0**	**0**	**0**
<=0.015									19			
<=0.03											19	
<=0.064	2		10	2								
<=0.12							8	2		18		
0.12	5		1									
<=0.25		2				2						
0.25	5						3			1		
0.5	1											
1						6						
2	1	3		4	1	1		1				2
4	2	6		2	10			5				15
8	2	2			2	6						2
16	1	2				4						
32		3			1							

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available		Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	0.25	8	0.5	0.5	0.5	0.06	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.064	0.5	0.25	0.12	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	64	128	128	128	2	16	16	128
	N of tested isolates	19	19	19	19	19	19	19	19	19	19	19	19
MIC	N of resistant isolates	12	17	6	6	6	17	6	6	0	0	0	0
64			1			5							

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from broilers (Gallus gallus) - fresh

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Poland

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**
MIC	**N of resistant isolates**	**19**	**0**	**17**	**17**	**4**	**19**	**0**	**0**	**0**	**16**	**11**	**16**	**0**	**9**
<=0.03										18					
0.064										1					
0.12							2								
<=0.25				2										19	9
0.25							7								
<=0.5					2				16						
0.5							4								
<=1								19							
1					5		2		3						1
<=2			2										3		
2				2	1										
<=4											1				
4			13	8	1										
>4				7											
<=8						15						6			
8			4		6		3				2				
>8					4		1								
16												1			
32						3						1			
>32															9
64						1							7		

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**
MIC	**N of resistant isolates**	**19**	**0**	**17**	**17**	**4**	**19**	**0**	**0**	**0**	**16**	**11**	**16**	**0**	**9**
>64		19											9		
128											6				
>128											10				
>1024												11			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Gallus gallus (fowl) - broilers

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON pnl2

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid	Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Positive/Present	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	8	0.5	0.5	0.06	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.5	0.25	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	128	128	2	16	16	128
	N of tested isolates	8	8	8	8	8	8	8	8	8	8
MIC	N of resistant isolates	8	8	0	4	7	0	0	0	0	0
<=0.015								8			
<=0.03										8	
<=0.064				8							
<=0.12							3		8		
0.25							5				
0.5						1					
1						6					
2		6				1					
4		2	2		1						1
8			6		3						6
16					4						1

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Gallus gallus (fowl) - broilers

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
MIC	**N of resistant isolates**	**46**	**0**	**8**	**7**	**16**	**70**	**0**	**1**	**0**	**62**	**43**	**48**	**0**	**32**
<=0.015							28								
<=0.03										98					
0.064							2								
0.12							7			2					
<=0.25				92										94	60
0.25							27								
<=0.5					93				47						
0.5							6							6	8
<=1	2							100							
1					7		12		51						
<=2			4										52		
2	35						1		1						
<=4											28				
4	17	55					6								
>4				8											
<=8						83						44			
8		41					9				8				
>8							2								
16						1					2	10			
32						2						2			
>32									1						32

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
MIC	**N of resistant isolates**	**46**	**0**	**8**	**7**	**16**	**70**	**0**	**1**	**0**	**62**	**43**	**48**	**0**	**32**
64		1				11					10	1	10		
>64		45											38		
128						1					14	1			
>128						2					38				
>1024												42			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Gallus gallus (fowl) - broilers

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON pnl2

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available		Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	0.25	8	0.5	0.5	0.5	0.06	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.064	0.5	0.25	0.12	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	64	128	128	128	2	16	16	64
	N of tested isolates	91	91	91	91	91	91	91	91	91	91	91	91
MIC	N of resistant isolates	90	91	1	1	1	91	1	1	0	0	0	0
<=0.015										87			
<=0.03												91	
0.03										4			
<=0.064				89									
<=0.12								85			79		
0.12		1		1									
0.25		1						4			10		
0.5		35			1			1			2		
1		34	1				1						
2		15	5			9	13		1				
4		2	44			65	37						60
8		3	25			16	32						29
16			13			1	6						2
32			1				2						

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available		Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	0.25	8	0.5	0.5	0.5	0.06	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.064	0.5	0.25	0.12	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	64	128	128	128	2	16	16	64
	N of tested isolates	91	91	91	91	91	91	91	91	91	91	91	91
MIC	N of resistant isolates	90	91	1	1	1	91	1	1	0	0	0	0
64			2										

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Gallus gallus (fowl) - broilers

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON

Analytical Method: Micromethod dilution (in microtiter plate)

Country of Origin: Latvia

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**
MIC	**N of resistant isolates**	**91**	**0**	**91**	**91**	**9**	**73**	**0**	**0**	**0**	**18**	**68**	**67**	**0**	**5**
<=0.015							16								
<=0.03										91					
0.03							2								
0.12							4								
<=0.25														89	63
0.25							56								
<=0.5									70						
0.5							3							2	23
<=1								90							
1					1		4		19						
<=2			21										24		
2				8	12		3	1	2						
<=4											17				
4			51	35	39		1								
>4				48											
<=8						82						10			
8			19		35		1				12				
>8					4		1								
16											44	11			
32						2					2	2			
>32															5

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**64**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**
MIC	**N of resistant isolates**	**91**	**0**	**91**	**91**	**9**	**73**	**0**	**0**	**0**	**18**	**68**	**67**	**0**	**5**
64						6					1		36		
>64		91											31		
128						1					5				
>128											10				
>1024												68			

OTHER ANTIMICROBIAL RESISTANCE TABLES

Specific monitoring of ESBL-/AmpC-/carbapenemase-producing bacteria and specific monitoring of carbapenemase-producing bacteria, in the absence of isolate detected

No data returned for this view. This might be because the applied filter excludes all data.

European Food Safety Authority

Latest Transmission set

Table Name	Last submitted dataset transmission date
Antimicrobial Resistance	07-Jul-2017
Animal Population	07-Jul-2017
Disease Status	07-Jul-2017
Food Borne Outbreaks	07-Jul-2017
Prevalence	07-Jul-2017
Text Forms	03-Jul-2017