European Food Safety Authority

ZOONOSES MONITORING

Luxembourg

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 Luxembourg 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.

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

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1 ANIMAL POPULATIONS

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

1.1 Populations

1.1.1 Information on susceptible animal population

Sources of information

SANITEL, Rural economy service (SER) and Administration of veterinary services (ASV) database of the Ministry of Agriculture

Dates the figures relate to and the content of the figures

Number of animals = number of animals at a certain time point of the year. Number of slaughtered animals = total number of slaughtered animals during the year.

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

Holding: any establishment, construction or, in the case of an open-air farm, any place in which animals are held, kept or handled. The location of the holding is based on the address and the coordinates of the geographical entity. A epidemiological entity is a unit of one building or a complex of buildings included grounds and territories where an animal species is or could be hold. For Bovine : Animals = individual bovines, Herds = animals kept as one sanitary uni. Holdings =herds For Poultry: Flocks = herds. Holdings = all the flocks from one owner

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

Over the last years, there was an important decrease in total number of holdings of bovines. The total number of bovine animals remains unchanged what means that the mean total number of animals per holding is increasing. But by 2016 the situation appears to be stabilizing.

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

Given the size of Luxembourg, the bovine animal population density is relatively homogeneous throughout the country. The number of porcine and poultry holdings in Luxembourg is rather limited.

2 DISEASE STATUS

2.1 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.1.1 Mycobacterium in animals

2.1.1.1 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

Luxembourg is officially free from bovine tuberculosis by decision 97/76/CE and confirmed by decision 2003/467/CE.

Monitoring system

Sampling strategy

Systematic inspection post mortem at slaughter. In case of suspected TB lesions, tissue samples are sent to the National Reference Laboratory for additional analysis to confirm the suspicion. Isolation of M. bovis and typing is performed at the National Reference Laboratory CODA-CERVA.

Type of specimen taken

Organs and tissues : lesions, lymph nodes, lungs, blood

Diagnostic/analytical methods used

Draw special attention and focus on the post-mortem examination of slaughtered animals;Transmission for further analysis of any lesion that could be 'suspected' of tuberculosis to the National Reference Laboratory (CERVA). Culture of M. bovis, biochemical testing, PCR are performed on these 'suspicious' lesions ;Molecular typing by means of RFLP are realised on all isolates to support the epidemiological investigations and to eventually prove the link between different cases or outbreaks.

Vaccination policy

Vaccination is prohibited.

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

The situation remains favourable.

2.1.1.2 Mycobacterium tuberculosis complex (MTC) in animal - All animals - animal sample

Monitoring system

Sampling strategy

Luxembourg has been granted the officially tuberculosis free status according to Council Directive 64/432/EEC.

2.2 BRUCELLOSIS

2.2.1 Brucella in animals

2.2.1.1 Brucella in animal - All animals - animal sample

Monitoring system

Frequency of the sampling

Animals at farm

Luxembourg is officially free from bovine, ovine and caprine brucellosis. The situation remains favorable.

Type of specimen taken

Animals at farm

Blood sampling. Diagnostic/analytical methods used : Rose Bengal test. Bulk milk samples. Diagnostic/analytical methods used : ELISA

2.2.1.2 Brucella in animal - Wild boars - wild - animal sample

Monitoring system

Sampling strategy

Serological screening for Brucella is done for hunted wild boars, B. suis biovar 2 may be isolated The infection seems to be endemic in wild boar in luxembourg . B. suis biovar 2, circulating among wild boars, shows only limited pathogenicity for humans, if pathogenic at all.

2.2.1.3 Brucella in animal - Cattle (bovine animals) - animal sample

Status as officially free of bovine brucellosis during the reporting year

The entire country free

Luxembourg is officially free from bovine brucellosis by decision 97/76/CE and confirmed by decision 2003/467/CE

Monitoring system

Sampling strategy

The bulk tank milk all over the country are tested under surveillance program. Suspicious animals due to abortions are tested.

Frequency of the sampling

Once a year for the survey program or on suspicion

Type of specimen taken

Blood and tankmilk . Other: blood, milk and/or tissue samples due to abortions

Methods of sampling (description of sampling techniques)

Blood sampling by veterinary practioners - Tankmilk samples taken for Milk Quality Assurance at the moment of the collection of the milk by the milk factory

Case definition

An animal is defined as infected if Brucella spp. has been isolated by culture and identified . A herd is defined as infected if one of its animals is positive by bacteriological examination for Brucellosis.

Diagnostic/analytical methods used

Screening : Rose Bengal test RBT (serum) - Indirect ELISA (milk). Confirmation: Complement fixation test CFT Serum) - Bacteriological examination and Culture of tissue samples due to abortions.

Vaccination policy

Vaccination is prohibited.

Results of the investigation

No cases of brucellosis were recorded in 2016. All bulk milk samples and serum samples from bovines were tested for brucellosis, all with negative results. In addition, all blood samples of animals tested by serological methods due to abortion or neonatal death; have negative results.

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

The situation remains favourable.

2.2.1.4 Brucella in animal - Goats - animal sample

Status as officially free of caprine brucellosis during the reporting year

The entire country free

Luxembourg is officially free from caprine brucellosis by decision 97/76/CE and confirmed by decision 2003/467/CE. The situation remains favourable.

2.2.1.5 Brucella in animal - Sheep - animal sample

Status as officially free of ovine brucellosis during the reporting year

The entire country free

Luxembourg is officially free from ovine brucellosis by decision 97/76/CE and confirmed by decision 2003/467/CE. The situation remains favourable.

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 Salmonella in animals

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

Monitoring system

Sampling strategy

Broiler flocks

The official surveillance program for broilers in accordance with Regulations (EC) Nos 2160/2003 and 200/2012. It is compulsory to sample all flocks in the last three weeks before slaughter. It is recommanded to sample the boxes were the birds as one day-old chicks arrive in the farm.

Frequency of the sampling

Broiler flocks: Day-old chicks

As the 1-day chicks are imported from a member state, parents must be tested free for Salmonella (TRACES certicate). Each 'batch' of day-old chicks that enters the farm should be sampled at the arrival on the farm.

Type of specimen taken

Broiler flocks: At slaughter (flock based approach)

At slaughter, caeca and neck skin samples are taken.

Case definition

Broiler flocks: Before slaughter at farm

A sample is considered positive if S. Enteritidis or S. Typhimurium is isolated. A flock is considered positive as soon as one sample is positive.

Broiler flocks: At slaughter (flock based approach)

A sample is considered positive if S. Enteritidis or S. Typhimurium is isolated.

Diagnostic/analytical methods used

Broiler flocks: Before slaughter at farm

Bacteriological method: ISO 6579:2002 annex D in accordance with Regulation (EU) No. 200/2012. All isolates are serotyped by sero agglutination

Broiler flocks: At slaughter (flock based approach)

Bacteriological method: ISO 6579:2002 annex D in accordance with Regulation (EU) No. 200/2012. All isolates are serotyped by sero agglutination

Vaccination policy

Broiler flocks

There is no vaccination policy for broiler flocks.

Other preventive measures than vaccination in place

Broiler flocks

Minimal requirements are laid down for holdings with broilers on infrastructure, management, hygiene and bio-security issues in the framework of the authorization of holdings

Control program/mechanisms

The control program/strategies in place

Broiler flocks

The minimal requirements in the framework of the authorization of farms with birds contains preventive measures (infrastructure, management, hygiene and biosecurity) for the control of Salmonella. Following measures are taken when a flock is positive for Salmonella spp: 1) logistic slaughter of the flock at the end of production; 2) mandatory cleaning and disinfection of the house; 3) hygienogram after disinfection and after the house has dried up; 4) swab control on the presence of Salmonella before restocking the house. When the same serotype of Salmonella is found at three consecutive times, the farm must be evaluated on biosecurity and hygiene by the farm veterinarian and necessary measures must be taken. An epidemiological investigation and/or tests are performed to find the source of the infection. It is at all times prohibited to treat for Salmonella with antibiotics.

Broiler flocks

The national control program for Salmonella in broiler flocks is based on Regulations (EC) Nos. 2160/2003, 1177/2006 and (EU) No 200/2012 and N° 853/2004 (EU).

Measures in case of the positive findings or single cases

Broiler flocks: Before slaughter at farm

Following measures are taken when a flock is positive for Salmonella spp: 1) logistic slaughter of the flock at the end of production; 2) heat traeted; 3) mandatory cleaning and disinfection of the house; 4) hygienogram after disinfection and after the house has dried up; 4) swab control on the presence of Salmonella before restocking the house. It is at all times prohibited to treat for Salmonella with antibiotics.

Notification system in place

Zoonotic Salmonella is notifiable by the farmer and the laboratory .Notification is done by phone, fax or electronically to the Veterinary Inspection

Results of the investigation

All samples were negative for Salmonella enteritidis and typhimurium.

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

The situation is favorable compared to 2015.

3.1.1.2 Salmonella in animal - Gallus gallus (fowl) - broilers - animal sample - caecum

Monitoring system

Methods of sampling (description of sampling techniques)

Broiler flocks: At slaughter (flock based approach)

The intact caeca of 10 broilers from the same flock are taken at the slaughterhouse with the aim to determine the load of Salmonella spp. entering the slaughterhouse.

3.1.1.3 Salmonella in animal - Gallus gallus (fowl) - broilers - environmental sample - boot swabs

Monitoring system

Frequency of the sampling

Broiler flocks: Before slaughter at farm

In the three weeks before slaughter, boot swab samples are taken in accordance with regulation (EC) No. 200/2012.

Type of specimen taken

Broiler flocks: Before slaughter at farm

In the three weeks before slaughter, boot swab samples are taken in accordance with regulation (EC) No. 200/2012. As chickens are slaughtered in a member state they are tested on the farm. They are accompanied by a "TRACES certificate"

Methods of sampling (description of sampling techniques)

Broiler flocks: Before slaughter at farm

All flocks are sampled, by the owner, within 3 weeks before slaughter. The sampling is performed in accordance with Regulation (EU) n 200/2012.

3.1.1.4 Salmonella in animal - Meat from pig - carcase - food sample - carcase swabs

Monitoring system

Sampling strategy

Fattening herds

The official surveillance program for pigs in accordance with Regulations (EC) Nos 2160/2003 and 2017/2014, did not demand sampling in 2016. It will be carried out in 2017

Frequency of the sampling

Fattening herds at slaughterhouse (herd based approach)

Preventive measures are based on the implementation by professionals of their food safety management system in the frame of EU regulations 178/2002 and 852/2004. At slaughterhouses: sampling distributed evenly throughout the year. Sampling of pork carcasses was done by means of swabs.

Methods of sampling (description of sampling techniques)

Fattening herds at slaughterhouse (herd based approach)

Sampling of pork carcasses is done by means of swabs (4 areas from the same half carcass constituting 600 cm2 were putted in the same stomacher bag). in the context of autocontrols according to Regulation (EC)N° 2003/2075 It is carried out by the food business operator under supervision of the official veterinarian.

Diagnostic/analytical methods used

Fattening herds at slaughterhouse (herd based approach)

Bacteriological method: ISO 6579:2002 annex D in accordance with Regulation (EU) No. 200/201. All isolates are serotyped by sero agglutination

Results of the investigation

All the samples were negative.

3.1.1.5 Salmonella in animal - Gallus gallus (fowl) - laying hens - animal sample

Monitoring system

Sampling strategy

Laying hens flocks

All laying hen flocks on farms with at least 1000 laying hens are under the Salmonella control programme - Regulations (EC) Nos 2160/2003 and 517/2011. Flocks are sampled by the owner every 15 weeks during the laying phase and in the last 3 weeks of production before slaughtering. When a flock has a second production cycle, the sampling continues every 15 weeks.

Vaccination policy

Laying hens flocks

The vaccination against Salmonella is strongly recommended.

Other preventive measures than vaccination in place

Laying hens flocks

Minimal requirements for infrastructure, management, hygiene and bio-security issues are laid down in the framework of the authorization of holdings.

3.1.1.6 Salmonella in animal - Gallus gallus (fowl) - laying hens - environmental sample - boot swabs

Monitoring system

Frequency of the sampling

Laying hens: Before slaughter at farm

Every flock is sampled in the last 3 weeks before slaughter.

Type of specimen taken

Laying hens: Before slaughter at farm

2 pairs of socks/ boot swabs are taken in accordance with Regulation (EU) No. 517/2011.

Methods of sampling (description of sampling techniques)

Laying hens: Production period

Socks/ boot swabs are taken by the owner or competent authority, accordance with Regulation (EU) No. 517/2011.

Laying hens: Before slaughter at farm

Samples are taken in accordance with Regulation (EU) N°. 517/2011.

Case definition

Laying hens: Production period

A sample is considered positive if S. Enteritidis or S. Typhimurium is isolated. A flock is considered positive as soon as one sample is positive.

Laying hens: Before slaughter at farm

A sample is considered positive if S. Enteritidis or S. Typhimurium is isolated. A flock is considered positive as soon as one sample is positive.

Diagnostic/analytical methods used

Laying hens: Production period

Bacteriological method: ISO 6579:2002 annex D in accordance with Regulation (EU) No. 517/2011. All isolates are serotyped by sero agglutination

Laying hens: Before slaughter at farm

Bacteriological method: ISO 6579:2002 annex D in accordance with Regulation (EU) No. 517/2011. All isolates are serotyped by sero agglutination

Control program/mechanisms

The control program/strategies in place

Laying hens flocks

The national control programme for Salmonella in laying hens is based on Regulations (EC) Nos. 2160/2003,1177/2006 and (EU) No. 517/2011 and N°853/2004 (EU) .

Laying hens flocks

The national control program for Salmonella in laying hens is based on Regulations (EC) Nos. 2160/2003, 1177/2006 and (EU) No. 517/2011.

Measures in case of the positive findings or single cases

Laying hens flocks

In case of positive findings, following measures are implemented:1) Pasteurization of eggs before human consumption.2) Cleaning and disinfection of housing after removal of the positive flock.3) Swab sampling of housing before entering a new flock. If the result is positive for Salmonella, cleaning, disinfection and swabcontrolhas to be repeated before restocking the house.

Notification system in place

Zoonotic Salmonella is notifiable by the farmer and the laboratory .Notification is done by phone, fax or electronically to the Veterinary Inspection

Results of the investigation

All samples were negative for Salmonella enteritidis and typhimurium.

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

The situation is favorable compared to 2015.

3.1.1.7 Salmonella in animal - Gallus gallus (fowl) - laying hens - environmental sample - boot swabs and dust

Monitoring system

Type of specimen taken

Laying hens: Production period

The samples taken during production consist of 2 pairs of overshoes in accordance with Regulation (EU) N 517/2011. Offical samples consist of 2 pairs of overshoes and one dustsample, also in accordance with Regulation (EU) N 517/2011.

3.1.1.8 Salmonella in Turkeys - breeding flocks and meat production flocks

Monitoring system

Sampling strategy

Meat production flocks

In 2016, there were no production of ducks or turkeys or geeses > 10000 T in luxembourg

3.1.2 Salmonella in feedingstuffs

3.1.2.1 Salmonella in feed - All feedingstuffs - feed sample

Control program/mechanisms

The control program/strategies in place

based on national control plan

3.2 CAMPYLOBACTERIOSIS

3.2.1 Campylobacter in animals

3.2.1.1 Campylobacter in animal - Gallus gallus (fowl) - broilers - animal sample - caecum

Monitoring system

Sampling strategy

This monitoring plan was implemented in accordance with Directive 2003/99 / EU and Decision 2013/652 / EU.

Frequency of the sampling

At slaughter

2 establishments slautghering on the farm. No slaughterhouse for broilers in Luxembourg. End of sampling after the first positive finding for thermophilic Campylobacter per farm per year.

Type of specimen taken

At slaughter

The caecal samples of broilers from the farm slaughtering are used for the research of Campylobater

Case definition

At slaughter

A sample is positive if Campylobacter spp. is detected.

Diagnostic/analytical methods used

At slaughter

Bacteriological method: ISO 10272-1. All strains are isolates by MCCDA and CFA. After they are identified by Maldi-Tof Mass Spectrometry

Measures in case of the positive findings or single cases

Samples are taken for monitoring purposes only. No measures are taken in case of positive findings. The producer gets a warning and hygiene measures must be taken.

3.3 TRICHINELLOSIS

3.3.1 Trichinella in animals

3.3.1.1 Trichinella in animal - Foxes - animal sample

Monitoring system

Sampling strategy

Trichinella searched on +/- 150 foxes/year Frequency of the sampling : all foxes arrived at the State Veterinary Laboratory for necropsy

Results of the investigation

All examinations were negative

3.3.1.2 Trichinella in animal - Solipeds, domestic - horses - animal sample

Monitoring system

Sampling strategy

Animals at farm

Systematic Trichinella examinations of all slaughtered horses. All examinations were negative

3.3.1.3 Trichinella in animal - Wild boars - animal sample

Monitoring system

Sampling strategy

Animals at farm

Systematic Trichinella examinations of all hunted boars. All examinations were negative.

3.3.1.4 Trichinella in animal - Pigs - animal sample

Monitoring system

Sampling strategy

General

Trichinellosis is virtually absent in luxembourg domestic livestock. Since systematic controls of all slaughtered pigs and horses are done at slaughter (Regulation EC N° 2075/2005) no positive case were found. EU Directive requires that also wild boars hunted in the EU for commercial purpose are examined for Trichinella. Each year, wild boars hunted in luxembourg are tested. The routine examination of wild boars devoted to the market has proven to be a good measure to protect the consumer against sylvatic Trichinellosis. In addition, monitoring of infection through examination of sentinel animals, such as the fox, is done to assess the prevalence of trichinellosis and to follow trends in time.

Frequency of the sampling

General

Systematic Trichinella examinations of all slaughtered pigs.

Type of specimen taken

General

Diaphragm muscle, 1 gram for fattening pigs, 2 grams for sows and boars.

Case definition

General

An animal is considered positive in case of detection and identification of Trichinella larvae in the muscle sample.

Diagnostic/analytical methods used

General

The analysis is done by artificial digestion: the magnetic stirrer method of pooled 100 gram sample as described in Commission Regulation (EC) No 2075/2005 modified by Regulation (UE) N°2015/1375, reference method, 1 gram per fattening pig, 2 grams per sow and boar,and 5 grams per horse and wild .

Control program/mechanisms

The control program/strategies in place

Commission Regulation (EC) No 2075/2005 modified by Regulation (UE) N°2015/1375 imposes systematic Trichinella examination of all slaughtered pigs, horses and wild boar and other wildlife animals by artificial digestion method of muscle before marketing.

Notification system in place

No positive cases were found in 2016

3.4 ECHINOCOCCOSIS

3.4.1 General evaluation of the national situation

3.4.1.1 Echinococcus - general evaluation

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

Search for echinococcus by scraping the intestinal mucosa of +/- 150 foxes/year.

3.5 RABIES

3.5.1 General evaluation of the national situation

3.5.1.1 Lyssavirus (rabies) - general evaluation

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

Search for lyssaviruses by immunofluorescence on brain samples of +/- 150 foxes/year. All the samples were negative.

3.5.1.2 unspecified - general evaluation

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

The risk of transmission of bat rabies to human beings is regarded as very low. The bats are protected by law in Luxembourg. It is thus recommended not to approach them. Capture, transport, sale, purchase or destruction of bats are prohibited. " Nature protection" collects dead bats and brings them to the Veterinary Medicine Laboratory for analysis of rabies. In the event of a positive result, it is sent for confirmation to the reference laboratory in Nancy.

4 ANTIMICROBIAL RESISTANCE INFORMATION ON SPECIFIC ZOONOSES AND ZOONOTIC AGENTS

4.1 SALMONELLOSIS

4.1.1 Salmonella in animals

4.1.1.1 Antimicrobial resistance in Salmonella All animals

Sampling strategy used in monitoring

Type of specimen taken

Positive samples from other monitoring programs and clinical investigations.

Methods of sampling (description of sampling techniques)

All samples found to be positive for Salmonella including clinical investigations

Procedures for the selection of isolates for antimicrobial testing

All strains isolated during the zoonosis monitoring programand clinical investigations are serotyped and antimicrobial resistance is determined . AMR was performed on all serotypes identified.

Methods used for collecting data

Minimum Inhibitory Concentrations (MIC) were determined by the dilution method using Sensititre, as described in the EU-legislation Official Journal of the European Union, Commission implementing decision 652/2013/EU on the monitoring and reporting of antimicrobial resistance in zoonotic and commesal bacteria. Interpretation was according to the EU-legislation.

Laboratory methodology used for identification of the microbial isolates

Bacteriological method: ISO 6579:2002 annex D in accordance with Regulation (EU) No. 200/2012. All isolates are serotyped by sero agglutination

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Minimum Inhibitory Concentrations (MIC) were determined by the dilution method using Sensititre EUVSEC panel, as described in the EU Decision 2013/652/EU. The antimicrobials reported as well as the breakpoints for interpretation are listed in the table below. First panel EUVSEC Antimicrobienne ECOFF (R> mg/l) Ampicilline 8 Cefotaxime 0.5 Ceftazidime2 Meropenem 0.125 Acide Nalidixique 16 Ciprofloxacine 0.064 Tetracycline 8 Colistine 2 Gentamicine 2 Trimethoprime 2 Sulfamethoxazole NA Chloramephnicol 16 Azithromycine NA Tigecycline 1 Second panel EUVSEC 2Antimicrobien ECOFF* (R>mg/l) Cefoxitin 8 CeefpimeNA Cefotaxime+calvulanic acid NA ceftazidime+clavulanic acid NA Meropenem 0.125 TemocillineNA Imipenem 1 Ertapeneme 0.06 Cefotaxtime 0.5 ceftazidime 2

Cut-off values used in testing

The cut-off values were used as described in the European Decision 2013/652/EU on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria. Minimum Inhibitory Concentrations (MIC) were determined by the use of broth microdilution, frist panel Sensititre EUVSEC. The determination of the Salmonella spp. to third generation cephalosporins or meropenem has been done with the second panel, EUVSEC2. The antimicrobials of the first panel EUVSEC, tested and the breakpoints used are listed in the following table .Antimicrobienne ECOFF (R> mg/l) Ampicillin 8, Cefotaxime 0.5, Ceftazidime ,2 Meropenem 0.12,5 Nalidixic acid 1,6 Ciprofloxacin 0.064, Ttracycline 8, Colistin 2, Gentamicin ,2 Trimethoprim 2, Sulfamthoxazole NA, Chloramphnicol 16, Azithromycin N,A Tigecycline 1. The antimicrobials of the second panel EUVSEC2, tested and the breakpoints used are listed in the following table .Antimicrobien ECOFF* (R>mg/l) Cefoxitin 8, Cefepime NA, Cefotaxime+calvulanic acid NA, ceftazidime+clavulanic acid N,A Meropenem 0.12,5 Temocillin N,A Imipenem 1, Ertapenem 0.0,6 Cefotaxtime 0.,5 ceftazidime 2.

4.1.1.2 Antimicrobial resistance in Salmonella Gallus gallus (fowl)

Description of sampling designs

The number of investigations on AMR in broilers is reduced given the small number of broiler farms (only 2) that slaughter in Luxembourg. All other broilers are slaughtered in other MS. All strains of Salmonella isolated during the zoonosis monitoring program and EU monitoring are serotyped and the determination of antimicrobial resistance is done. This is also done for clinical investigations with finding of Salmonella. As general prevalence is low, not many postive samples are found.

Sampling strategy used in monitoring

Frequency of the sampling

Sampling throughout the year

4.2 CAMPYLOBACTERIOSIS

4.2.1 Campylobacter in animals

4.2.1.1 Antimicrobial resistance in Campylobacter All animals

Description of sampling designs

All strains of Campylobacter isolated during the zoonosis monitoring program, national monitoring and EFSA specific monitoring" décision 652/2013 /EC or detected in the National reference laboratory, are identified by Maldi-tof mass spectrometry and the determination of antimicrobial resistance is done. Also Clinical investigations and laboratory findings of Campylobacter are analysed for AMR. For details for 2016, see Thermophilic Campylobacter in Gallus gallus.

Sampling strategy used in monitoring

Frequency of the sampling

2 establishments slautghering on the farm. No slaughterhouse for broilers in Luxembourg. End of sampling after the test for AMR on the first positive finding for thermophilic Campylobacter per farm per year.

Type of specimen taken

Intact caeca from broilers taken at slaughter within the framework of the monitoring plan décision 652/2013 /EC. Samples taked for clinical diagnostic from other species

Laboratory methodology used for identification of the microbial isolates

Specification (coli/jejuni) with Maldi-Tof mass spectrometry

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Minimum Inhibitory Concentrations (MIC) were determined by using broth microdilution method (Sensititre EUCAMP2 panel). From 2014, a new European decision on the harmonization of the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria is adopted which specifies new interpretative threshold for resistance for C jejuni and C. coli. Therefore, the antimicrobials tested and the epidemiological cut-off values (ECOFF) used are listed in the table below following the official Journal of the European Union (L303/26 14.11.2013). Antimicrobial Breakpoints R > (g / ml) C. jejuni C. coli Tetracycline 1/2, Nalidixic acid 16/16, Ciprofloxacin 0.5 /0.5, Erythromycin 4/,8 Gentamicin 2/2, Streptomycin 4/4.

4.3 VTEC

4.3.1 Escherichia coli in animals

4.3.1.1 Antimicrobial resistance in Escherichia coli All animals

Description of sampling designs

Samples of ESBL originate from the monitoring plan décision 652/2013 /EC , clinical investigations and laboratory findings. Antimicrobial resistance is determined for all strains

Description of sampling designs

Samples of Commensal E. Coli originate from the monitoring plan décision 652/2013/EU Antimicrobial resistance is determined for all strains .

Sampling strategy used in monitoring

Frequency of the sampling

2 establishments slautghering on the farm. No slaughterhouse for broilers in Luxembourg. End of sampling after the test for AMR on the first positive finding for ESBL per farm per year.

Frequency of the sampling

2 establishments slautghering on the farm. No slaughterhouse for broilers in Luxembourg. End of sampling after the test for AMR on the first positive finding for Commensal E. coli per farm per year.

Type of specimen taken

Intact caeca from broilers taken at slaughter within the framework of the monitoring plan décision 652/2013 /EU. Samples taken in the context of clinical diagnostic from other species

Type of specimen taken

Intact caeca from broilers taken at slaughter within the framework of the monitoring plan décision 652/2013 /EC.

Laboratory methodology used for identification of the microbial isolates

All strains are isolated on Mac Conkey and Colombia Blood Agar . After isolation they are identified by VITEK2 COMPACT.

Laboratory methodology used for identification of the microbial isolates

All strains are isolated on MCA. After the are identified by VITEK2 COMPACT and confirmed by AMR Euvsec and Euvsec2 . Genotyping is done by PCR

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Minimum Inhibitory Concentrations (MIC) were determined by the dilution method using Sensititre, as described in the EU-legislation Official Journal of the European Union, Commission implementing Decision 2013/652/EU on the monitoring and reporting of antimicrobial resistance in zoonotic and commesal bacteria. Interpretation was according to the EU-legislation. Minimum Inhibitory Concentrations (MIC) were determined by the dilution method using Sensititre EUVSEC panel, as described in the EU-Decision 2013/652/EU . The antimicrobials reported as well as the breakpoints for interpretation are listed in the table below. First panel EUVSEC Antimicrobienne ECOFF (R> mg/l) Ampicilline 8, Cefotaxime 0.5, Ceftazidime 0.5, Meropeneme 0.125, Acide Nalidixique 16, Ciprofloxacine 0.064, Tetracycline 8, Colistine 2, Gentamicine 2, Trimethoprime 2, Sulfamethoxazole 64, Chloramephnicol 16, Azithromycine NA, Tigecycline 1. Second panel EUVSE 2. Antimicrobien ECOFF* (R>mg/l) Cefoxitin 8, Cefepime 0.125, Cefotaxime+calvulanic acid >NA, Ceftazidime+clavulanic acid >NA, Meropenem 0.125, Temocillin NA, Imipenem 0.5, Ertapenem 0.06, Cefotaxtim 0.25, Ceftazidime 0.5.

Antimicrobials included in monitoring

Genotyping is used to confirm the ESBL.

ANIMAL POPULATION TABLES

Table Susceptible animal population

Animal species	Category of animals	Population	
		animal	herd/flock
Cattle (bovine animals)	Cattle (bovine animals)	201,416	1,274
Gallus gallus (fowl)	Gallus gallus (fowl) - broilers	17,988	
	Gallus gallus (fowl) - laying hens	95,287	
Goats	Goats	5,124	122
Pigs	Pigs	95,337	
Sheep	Sheep	8,944	236

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
LUXEMBOURG	1,274	0	1,274

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
LUXEMBOURG	358	0	358

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
LUXEMBOURG	1,274	0	1,274

PREVALENCE TABLES

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	Cattle (bovine animals) - Farm - Not Available - Not Available - Clinical investigations - Not applicable - Suspect sampling	animal	115	39	Campylobacter hyointestinalis	3
					Campylobacter jejuni	34
					Campylobacter, unspecified sp.	2
	Gallus gallus (fowl) - Slaughterhouse - Not Available - Not Available - Monitoring - Official sampling - Objective sampling	animal	19	19	Campylobacter coli	12
					Campylobacter jejuni	7
	Goats - Farm - Not Available - Not Available - Clinical investigations - Not applicable - Selective sampling	animal	1	0	Campylobacter	0
	Sheep - Farm - Not Available - Not Available - Clinical investigations - Not applicable - Selective sampling	animal	2	2	Campylobacter jejuni	2

Table CAMPYLOBACTER 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 broilers (Gallus gallus) - fresh - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	10	Gram	107	85	Campylobacter coli	34
							Campylobacter jejuni	51
	Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	10	Gram	38	19	Campylobacter coli	5
							Campylobacter jejuni	14
	Meat from broilers (Gallus gallus) - minced meat - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	10	Gram	2	0	Campylobacter	0
	Meat from turkey - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	10	Gram	14	1	Campylobacter jejuni	1
	Other products of animal origin - Slaughterhouse - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	10	Gram	14	10	Campylobacter jejuni	10

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 - Not Available - Not Available - Surveillance - Official sampling - Census	animal	25750	0	Echinococcus	0
	Foxes - Natural habitat - Not Available - Not Available - Monitoring - Official sampling - Selective sampling	animal	128	37	Echinococcus multilocularis	37
	Pigs - Slaughterhouse - Not Available - Not Available - Surveillance - Official sampling - Census	animal	176968	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 bovine animals - fresh - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	29	0	Verocytotoxigenic E. coli (VTEC)	0
	Meat from bovine animals - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	24	Gram	31	0	Verocytotoxigenic E. coli (VTEC)	0
	Meat from bovine animals - minced meat - intended to be eaten raw - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	23	Gram	124	0	Verocytotoxigenic E. coli (VTEC)	0
	Meat from bovine animals and pig - minced meat - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	22	Gram	25	0	Verocytotoxigenic E. coli (VTEC)	0
	Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	Verocytotoxigenic E. coli (VTEC)	0
	Other processed food products and prepared dishes - meat based dishes - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	21	Gram	1	0	Verocytotoxigenic E. coli (VTEC)	0

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	Goats - Farm - Luxembourg - animal sample - brain - Clinical investigations - Not applicable - Suspect sampling	animal	1	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 - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	<= 100	Listeria monocytogenes	1	0
							>100	Listeria monocytogenes	1	0
	Cheeses made from cows' milk - fresh - made from pasteurised milk - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	detection	Listeria monocytogenes	1	0
	Fish - marinated - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	7	1	<= 100	Listeria monocytogenes	7	0
							>100	Listeria monocytogenes	7	0
	Fish - marinated - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	7	1	detection	Listeria monocytogenes	7	1
	Fish - raw - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	11	1	<= 100	Listeria monocytogenes	11	0
							>100	Listeria monocytogenes	11	0
	Fish - raw - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	11	1	detection	Listeria monocytogenes	11	1
	Fish - smoked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	6	3	<= 100	Listeria monocytogenes	6	0
							>100	Listeria monocytogenes	6	0
	Fish - smoked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	6	3	detection	Listeria monocytogenes	6	3
	Fish - unspecified - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	17	6	<= 100	Listeria monocytogenes	17	0
							>100	Listeria monocytogenes	17	0
	Fish - unspecified - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	17	6	detection	Listeria monocytogenes	17	6
	Fishery products, unspecified - cooked - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	11	0	<= 100	Listeria monocytogenes	11	0
							>100	Listeria monocytogenes	11	0
	Fishery products, unspecified - cooked - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	11	0	detection	Listeria monocytogenes	11	0
	Fishery products, unspecified - ready-to-eat - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	2	0	<= 100	Listeria monocytogenes	2	0
							>100	Listeria monocytogenes	2	0
	Fishery products, unspecified - ready-to-eat - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	2	0	detection	Listeria monocytogenes	2	0
	Meat from bovine animals - fresh - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	34	1	<= 100	Listeria monocytogenes	34	0
							>100	Listeria monocytogenes	34	0
	Meat from bovine animals - fresh - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	34	1	detection	Listeria monocytogenes	34	1
	Meat from bovine animals - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	7	6	<= 100	Listeria monocytogenes	7	0
							>100	Listeria monocytogenes	7	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 from bovine animals - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	7	6	detection	Listeria monocytogenes	7	6
	Meat from bovine animals - meat products - cooked, ready-to-eat - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	3	0	<= 100	Listeria monocytogenes	3	0
							>100	Listeria monocytogenes	3	0
	Meat from bovine animals - meat products - cooked, ready-to-eat - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	3	0	detection	Listeria monocytogenes	3	0
	Meat from bovine animals - minced meat - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	31	4	<= 100	Listeria monocytogenes	31	0
							>100	Listeria monocytogenes	31	0
	Meat from bovine animals - minced meat - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	31	4	detection	Listeria monocytogenes	31	4
	Meat from bovine animals - minced meat - intended to be eaten raw - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	124	16	<= 100	Listeria monocytogenes	124	0
							>100	Listeria monocytogenes	124	0
	Meat from bovine animals - minced meat - intended to be eaten raw - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	124	16	detection	Listeria monocytogenes	124	16
	Meat from bovine animals - offal - chilled - Processing plant - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	<= 100	Listeria monocytogenes	1	0
							>100	Listeria monocytogenes	1	0
	Meat from bovine animals - offal - chilled - Processing plant - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	detection	Listeria monocytogenes	1	0
	Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	110	31	<= 100	Listeria monocytogenes	110	3
							>100	Listeria monocytogenes	110	0
	Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	110	31	detection	Listeria monocytogenes	110	31
	Meat from bovine animals and pig - meat products - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	116	8	<= 100	Listeria monocytogenes	116	0
							>100	Listeria monocytogenes	116	0
	Meat from bovine animals and pig - meat products - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	116	8	detection	Listeria monocytogenes	116	8
	Meat from bovine animals and pig - minced meat - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	51	6	<= 100	Listeria monocytogenes	51	0
							>100	Listeria monocytogenes	51	0
	Meat from bovine animals and pig - minced meat - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	51	6	detection	Listeria monocytogenes	51	6
	Meat from bovine animals and pig - minced meat - intended to be eaten raw - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	90	11	<= 100	Listeria monocytogenes	90	3
							>100	Listeria monocytogenes	90	0
	Meat from bovine animals and pig - minced meat - intended to be eaten raw - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	90	11	detection	Listeria monocytogenes	90	11
	Meat from duck - fresh - with skin - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	<= 100	Listeria monocytogenes	1	0
							>100	Listeria monocytogenes	1	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 from duck - fresh - with skin - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	detection	Listeria monocytogenes	1	0
	Meat from duck - meat products - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	<= 100	Listeria monocytogenes	1	0
							>100	Listeria monocytogenes	1	0
	Meat from duck - meat products - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	detection	Listeria monocytogenes	1	0
	Meat from farmed game - ratites - fresh - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	1	<= 100	Listeria monocytogenes	1	0
							>100	Listeria monocytogenes	1	0
	Meat from farmed game - ratites - fresh - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	1	detection	Listeria monocytogenes	1	1
	Meat from horse - fresh - frozen - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	12	0	<= 100	Listeria monocytogenes	12	0
							>100	Listeria monocytogenes	12	0
	Meat from horse - fresh - frozen - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	12	0	detection	Listeria monocytogenes	12	0
	Meat from other poultry species - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	<= 100	Listeria monocytogenes	1	0
							>100	Listeria monocytogenes	1	0
	Meat from other poultry species - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	detection	Listeria monocytogenes	1	0
	Meat from pig - meat products - pâté - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	27	0	<= 100	Listeria monocytogenes	27	0
							>100	Listeria monocytogenes	27	0
	Meat from pig - meat products - pâté - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	27	0	detection	Listeria monocytogenes	27	0
	Meat from pig - meat products - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	146	2	<= 100	Listeria monocytogenes	146	0
							>100	Listeria monocytogenes	146	0
	Meat from pig - meat products - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	146	2	detection	Listeria monocytogenes	146	2
	Meat from poultry, unspecified - fresh - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	112	55	<= 100	Listeria monocytogenes	112	0
							>100	Listeria monocytogenes	112	0
	Meat from poultry, unspecified - fresh - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	112	55	detection	Listeria monocytogenes	112	55
	Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	24	3	<= 100	Listeria monocytogenes	24	0
							>100	Listeria monocytogenes	24	0
	Meat from poultry, unspecified - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	24	3	detection	Listeria monocytogenes	24	3
	Meat from poultry, unspecified - meat products - cooked, ready-to-eat - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	18	0	<= 100	Listeria monocytogenes	18	0
							>100	Listeria monocytogenes	18	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 from poultry, unspecified - meat products - cooked, ready-to-eat - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	18	0	detection	Listeria monocytogenes	18	0
	Meat from poultry, unspecified - meat products - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	17	0	<= 100	Listeria monocytogenes	17	0
							>100	Listeria monocytogenes	17	0
	Meat from poultry, unspecified - meat products - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	17	0	detection	Listeria monocytogenes	17	0
	Meat from sheep - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	15	2	<= 100	Listeria monocytogenes	15	0
							>100	Listeria monocytogenes	15	0
	Meat from sheep - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	15	2	detection	Listeria monocytogenes	15	2
	Meat from turkey - fresh - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	5	0	<= 100	Listeria monocytogenes	5	0
							>100	Listeria monocytogenes	5	0
	Meat from turkey - fresh - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	5	0	detection	Listeria monocytogenes	5	0
	Meat from turkey - meat products - cooked, ready-to-eat - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	4	1	<= 100	Listeria monocytogenes	4	0
							>100	Listeria monocytogenes	4	0
	Meat from turkey - meat products - cooked, ready-to-eat - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	4	1	detection	Listeria monocytogenes	4	1
	Meat from turkey - meat products - raw and intended to be eaten raw - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	<= 100	Listeria monocytogenes	1	0
							>100	Listeria monocytogenes	1	0
	Meat from turkey - meat products - raw and intended to be eaten raw - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	1	0	detection	Listeria monocytogenes	1	0
	Meat from wild boar - meat products - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	4	1	<= 100	Listeria monocytogenes	4	0
							>100	Listeria monocytogenes	4	0
	Meat from wild boar - meat products - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	4	1	detection	Listeria monocytogenes	4	1
	Meat from wild game - land mammals - meat products - pâté - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	7	0	<= 100	Listeria monocytogenes	7	0
							>100	Listeria monocytogenes	7	0
	Meat from wild game - land mammals - meat products - pâté - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	7	0	detection	Listeria monocytogenes	7	0
	Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	32	13	<= 100	Listeria monocytogenes	32	0
							>100	Listeria monocytogenes	32	0
	Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	32	13	detection	Listeria monocytogenes	32	13
	Meat, mixed meat - meat products - cooked, ready-to-eat - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	13	0	<= 100	Listeria monocytogenes	13	0
							>100	Listeria monocytogenes	13	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 products - cooked, ready-to-eat - chilled - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	13	0	detection	Listeria monocytogenes	13	0
	Other processed food products and prepared dishes - fish and seafood based dishes - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	5	1	<= 100	Listeria monocytogenes	5	0
							>100	Listeria monocytogenes	5	0
	Other processed food products and prepared dishes - fish and seafood based dishes - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	5	1	detection	Listeria monocytogenes	5	1
	Other processed food products and prepared dishes - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	33	1	<= 100	Listeria monocytogenes	33	0
							>100	Listeria monocytogenes	33	0
	Other processed food products and prepared dishes - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	33	1	detection	Listeria monocytogenes	33	1
	Other processed food products and prepared dishes - sushi - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	15	0	<= 100	Listeria monocytogenes	15	0
							>100	Listeria monocytogenes	15	0
	Other processed food products and prepared dishes - sushi - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	15	0	detection	Listeria monocytogenes	15	0
	Other products of animal origin - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	26	8	<= 100	Listeria monocytogenes	26	0
							>100	Listeria monocytogenes	26	0
	Other products of animal origin - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	26	8	detection	Listeria monocytogenes	26	8
	Ready-to-eat salads - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	15	3	<= 100	Listeria monocytogenes	15	0
							>100	Listeria monocytogenes	15	0
	Ready-to-eat salads - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	15	3	detection	Listeria monocytogenes	15	3
	Sauce and dressings - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	2	0	<= 100	Listeria monocytogenes	2	0
							>100	Listeria monocytogenes	2	0
	Sauce and dressings - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	2	0	detection	Listeria monocytogenes	2	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
Not Available	Bats - Natural habitat - Not Available - Not Available - Monitoring - Official sampling - Selective sampling	animal	31	0	Lyssavirus	0
	Cats - Hospital or medical care facility - Not Available - Not Available - Clinical investigations - Official sampling - Suspect sampling	animal	3	0	Lyssavirus	0
	Dogs - Hospital or medical care facility - Not Available - Not Available - Clinical investigations - Official sampling - Suspect sampling	animal	1	0	Lyssavirus	0
	Foxes - wild - Natural habitat - Not Available - Not Available - Monitoring - Official sampling - Selective sampling	animal	115	0	Lyssavirus	0
	Marten - Natural habitat - Not Available - Not Available - Monitoring - Official sampling - Selective sampling	animal	2	0	Lyssavirus	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) - Farm - Not Available - Not Available - Clinical investigations - Not applicable - Suspect sampling	animal		N_A	140	7	Salmonella Typhimurium	1
							Salmonella Typhimurium, monophasic	6
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Luxembourg - environmental sample - boot swabs and dust - Control and eradication programmes - Official and industry sampling - Census	herd/flock		Y	10	0	Salmonella	0
	Gallus gallus (fowl) - Farm - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	herd/flock		N_A	459	2	Salmonella Livingstone	1
							Salmonella Montevideo	1
	Gallus gallus (fowl) - laying hens - adult - Farm - Luxembourg - environmental sample - boot swabs and dust - Control and eradication programmes - Official and industry sampling - Census	herd/flock		Y	31	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	Meat from bovine animals - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	29	1	Salmonella Enteritidis	1
	Meat from bovine animals and pig - meat preparation - intended to be eaten cooked - Processing plant - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	105	4	Salmonella Infantis	1
							Salmonella Typhimurium, monophasic	3
	Meat from pig - carcase - Slaughterhouse - Not Available - Not Available - Control and eradication programmes - HACCP and own check - Objective sampling	slaughter animal batch	400	Square centimetre	155	0	Salmonella	0
			401	Square centimetre	190	0	Salmonella	0
	Meat from pig - meat preparation - intended to be eaten cooked - Retail - Not Available - Not Available - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	80	1	Salmonella Derby	1

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 cattle - final product - Farm - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	2	2	Salmonella Enteritidis	2
	Compound feedingstuffs for cattle - final product - Farm - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	36	0	Salmonella	0
	Compound feedingstuffs for cattle - final product - Retail - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	5	0	Salmonella	0
	Compound feedingstuffs for horses - final product - Farm - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	1	0	Salmonella	0
	Compound feedingstuffs for pigs - final product - Farm - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	11	0	Salmonella	0
	Compound feedingstuffs for pigs - final product - Retail - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	1	0	Salmonella	0
	Compound feedingstuffs for poultry, broilers - final product - Farm - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	1	0	Salmonella	0
	Compound feedingstuffs for poultry, laying hens - final product - Farm - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	3	0	Salmonella	0
	Compound feedingstuffs for poultry, laying hens - final product - Retail - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	2	0	Salmonella	0
	Compound feedingstuffs for sheep - final product - Retail - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	1	0	Salmonella	0
	Feed material of cereal grain origin - barley derived - Farm - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	1	0	Salmonella	0
	Feed material of cereal grain origin - maize derived - Farm - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	2	0	Salmonella	0
	Feed material of cereal grain origin - other cereal grain derived - by-products of brewing and distilling - Processing plant - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	1	0	Salmonella	0
	Feed material of cereal grain origin - other cereal grain derived - Farm - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	1	0	Salmonella	0
	Feed material of cereal grain origin - wheat derived - Farm - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	1	0	Salmonella	0
	Feed material of oil seed or fruit origin - soya (bean) derived - Retail - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	4	0	Salmonella	0
	Other feed material - other seeds and fruits - Farm - Not Available - feed sample - Surveillance - Official sampling - Selective sampling	batch (food/feed)	25	Gram	1	0	Salmonella	0

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	Foxes - wild - Natural habitat - Not Available - Not Available - Surveillance - Official sampling - Selective sampling	animal	141	0	Trichinella	0
	Pigs - fattening pigs - not raised under controlled housing conditions - Slaughterhouse - Not Available - Not Available - Monitoring - Official sampling - Census	animal	173835	0	Trichinella	0
	Raccoons - wild - Natural habitat - Not Available - Not Available - Surveillance - Official sampling - Selective sampling	animal	29	0	Trichinella	0
	Solipeds, domestic - Slaughterhouse - Not Available - Not Available - Monitoring - Official sampling - Census	animal	28	0	Trichinella	0
	Wild boars - wild - Natural habitat - Not Available - Not Available - Surveillance - Official sampling - Census	animal	3513	0	Trichinella	0
	Wild cat (Felis silvestris) - wild - Natural habitat - Not Available - Not Available - Surveillance - Official sampling - Selective sampling	animal	18	0	Trichinella	0

FOODBORNE OUTBREAKS TABLES

Foodborne Outbreaks: summarized data

		Outbreak strenght	Strong				Weak			
Causative agent	Food vehicle		N outbreaks	N human cases	N hospitalized	N deaths	N outbreaks	N human cases	N hospitalized	N deaths
Campylobacter jejuni	Broiler meat (Gallus gallus) and products thereof		1	21	0	0				
Salmonella Enteritidis	Eggs and egg products		1	2	0	0				
Salmonella Typhimurium	Unknown						1	6	0	0

Strong 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	Not Available	Broiler meat (Gallus gallus) and products thereof	N_A	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans	Not Available	unk	Not Available	NOT AVAILABLE	unusual increase of human cases of a previously rare cluster type by whole genome sequencing, identical profiles found in chicken meat samples	1	21	0	0
Salmonella Enteritidis	unk	N_A	Not Available	Eggs and egg products	N_A	Detection of causative agent in food vehicle or its component - Detection of indistinguishable causative agent in humans	Not Available	unk	Poland	NOT AVAILABLE	2 cases with indistinguishable WGS profiles linked to Polish egg outbreak, cf. EPIS UI-367	1	2	0	0

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
Salmonella Typhimurium	unk	N_A	Not Available	Unknown	N_A	Descriptive epidemiological evidence	Not Available	unk	Not Available	NOT AVAILABLE	occurrence of 6 human isolates with rare MLVA type 4-12-9-7-211 in short time interval, no common exposure observed, c.f. EPIS UI-366	1	6	0	0

Table Antimicrobial susceptibility testing of Campylobacter coli in Meat from turkey - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

Sampling details: N_A

	AM substance	Ciprofloxacin		Erythromycin (Erythromycin A)	Gentamicin		Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**		**8**	**2**		**16**	**4**	**2**
	Lowest limit	**0.12**		**1**	**0.12**	**1**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**64**	**128**	**16**	**16**	**64**	**16**	**64**
	N of tested isolates	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**
MIC	**N of resistant isolates**	**3**	**3**	**1**	**0**	**0**	**2**	**0**	**3**
0.25					1				
0.5					1				
<=1				2		1	1		
2								1	
4								2	
8		1							
16		1		1					
>64			1				2		3

Table Antimicrobial susceptibility testing of Campylobacter coli in Meat from poultry, unspecified - fresh - with skin

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

Sampling details: N_A

	AM substance	Ciprofloxacin	Erythromycin (Erythromycin A)	Gentamicin	Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**	**8**	**2**	**16**	**4**	**2**
	Lowest limit	**0.12**	**1**	**0.12**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**128**	**16**	**64**	**16**	**64**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**1**	**0**	**1**
0.5				1			
<=1			1				
1						1	
8		1					1
>64					1		

Table Antimicrobial susceptibility testing of Campylobacter coli in Meat from poultry, unspecified - meat products - raw but intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

Sampling details: N_A

	AM substance	Ciprofloxacin	Erythromycin (Erythromycin A)	Gentamicin	Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**	**8**	**2**	**16**	**4**	**2**
	Lowest limit	**0.12**	**1**	**0.12**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**128**	**16**	**64**	**16**	**64**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**1**	**0**	**0**
<=0.5							1
<=1			1				
2				1		1	
4		1					
>64					1		

Table Antimicrobial susceptibility testing of Campylobacter coli in Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

Sampling details: N_A

	AM substance	Ciprofloxacin	Erythromycin (Erythromycin A)	Gentamicin	Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**	**8**	**2**	**16**	**4**	**2**
	Lowest limit	**0.12**	**1**	**0.12**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**128**	**16**	**64**	**16**	**64**
	N of tested isolates	**3**	**3**	**3**	**3**	**3**	**3**
MIC	**N of resistant isolates**	**2**	**0**	**0**	**2**	**0**	**2**
<=0.12		1					
<=0.5							1
0.5				2			
<=1			3				
1				1			
2						2	
4					1	1	
8		1					
16		1					
>64					2		2

Table Antimicrobial susceptibility testing of Campylobacter coli 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: Dilution - sensititre

Country of Origin: Luxembourg

Sampling details: N_A

	AM substance	Ciprofloxacin	Erythromycin (Erythromycin A)	Gentamicin	Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**	**8**	**2**	**16**	**4**	**2**
	Lowest limit	**0.12**	**1**	**0.12**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**128**	**16**	**64**	**16**	**64**
	N of tested isolates	**12**	**12**	**12**	**12**	**12**	**12**
MIC	**N of resistant isolates**	**12**	**0**	**0**	**12**	**0**	**12**
0.25				3			
0.5				7			
<=1			12				
1				2		1	
2						7	
4		1				4	
8		10					
16		1					
64					9		4
>64					3		8

Table Antimicrobial susceptibility testing of Campylobacter coli in Meat from poultry, unspecified - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

Sampling details: N_A

	AM substance	Ciprofloxacin	Erythromycin (Erythromycin A)	Gentamicin	Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**	**8**	**2**	**16**	**4**	**2**
	Lowest limit	**0.12**	**1**	**0.12**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**128**	**16**	**64**	**16**	**64**
	N of tested isolates	**2**	**2**	**2**	**2**	**2**	**2**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**1**	**0**	**1**
<=0.12		1					
<=0.5							1
0.5				1			
<=1			2				
1				1			
2						2	
4					1		
8		1					
>64					1		1

Table Antimicrobial susceptibility testing of Campylobacter coli in Meat from broilers (Gallus gallus) - fresh - with skin

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

Sampling details: N_A

	AM substance	Ciprofloxacin	Erythromycin (Erythromycin A)	Gentamicin	Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**	**8**	**2**	**16**	**4**	**2**
	Lowest limit	**0.12**	**1**	**0.12**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**128**	**16**	**64**	**16**	**64**
	N of tested isolates	**23**	**23**	**23**	**23**	**23**	**23**
MIC	**N of resistant isolates**	**16**	**2**	**0**	**15**	**5**	**17**
<=0.12		6					
0.25		1		2			
<=0.5							6
0.5				13			
<=1			19				
1		1		8		1	
2			1		1	12	
4		1			6	5	
8		6	1		1	1	
16		7					
>16		1				4	
64					6		
>64					9		17
>128			2				

Table Antimicrobial susceptibility testing of Campylobacter coli in Meat from broilers (Gallus gallus) - fresh - skinned

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

Sampling details: N_A

	AM substance	Ciprofloxacin	Erythromycin (Erythromycin A)	Gentamicin	Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**	**8**	**2**	**16**	**4**	**2**
	Lowest limit	**0.12**	**1**	**0.12**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**128**	**16**	**64**	**16**	**64**
	N of tested isolates	**13**	**13**	**13**	**13**	**13**	**13**
MIC	**N of resistant isolates**	**11**	**1**	**0**	**11**	**1**	**11**
<=0.12		2					
0.25				1			
<=0.5							2
0.5				3			
<=1			12				
1				9		2	
2						2	
4		1			1	8	
8		4			1		
16		4					1
>16		2				1	
64					2		
>64					9		10
>128			1				

Table Antimicrobial susceptibility testing of Campylobacter coli in Meat from poultry, unspecified - fresh

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

Sampling details: N_A

	AM substance	Ciprofloxacin	Erythromycin (Erythromycin A)	Gentamicin	Nalidixic acid	Streptomycin	Tetracycline
	ECOFF	**0.5**	**8**	**2**	**16**	**4**	**2**
	Lowest limit	**0.12**	**1**	**0.12**	**1**	**0.25**	**0.5**
	Highest limit	**16**	**128**	**16**	**64**	**16**	**64**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**1**	**0**	**1**
0.5				1			
<=1			1				
1						1	
16		1					
>64					1		1

Table Antimicrobial susceptibility testing of Campylobacter jejuni in Meat from bovine animals and pig - minced meat

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**1**	**0**	**1**
0.25				1			
<=1			1				
1						1	
16		1					
>64					1		1

Table Antimicrobial susceptibility testing of Campylobacter jejuni in Meat from turkey - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**1**	**0**	**1**
0.5				1			
<=1			1				
1						1	
16		1					
>64					1		1

Table Antimicrobial susceptibility testing of Campylobacter jejuni in Meat from poultry, unspecified - fresh - with skin

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.12		1					
<=0.5							1
<=1			1				
1				1			
2						1	
4					1		

Table Antimicrobial susceptibility testing of Campylobacter jejuni in Sheep

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Not applicable

Sampling Strategy: Suspect sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**2**	**2**	**2**	**2**	**2**	**2**
MIC	**N of resistant isolates**	**1**	**0**	**0**	**1**	**0**	**1**
<=0.12		1					
0.25				1			
<=0.5							1
0.5				1			
<=1			2				
1						2	
4					1		
8		1					
64							1
>64					1		

Table Antimicrobial susceptibility testing of Campylobacter jejuni in Cattle (bovine animals)

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Monitoring

Sampler: Not applicable

Sampling Strategy: Suspect sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**33**	**33**	**33**	**33**	**33**	**33**
MIC	**N of resistant isolates**	**16**	**1**	**0**	**17**	**2**	**9**
<=0.12		16		2			
0.25		1		2			
<=0.5							23
0.5				25		1	
<=1			32				
1				3		9	1
2				1		21	
4					9		
8		6			6	1	
16		9			1		
>16		1				1	
32							1
64							5
>64					17		3
>128			1				

Table Antimicrobial susceptibility testing of Campylobacter jejuni in Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**2**	**2**	**2**	**2**	**2**	**2**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.12		2					
<=0.5							2
0.5				2			
<=1			2				
2						2	
8					2		

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: Dilution - sensititre

Country of Origin: Luxembourg

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	**7**	**7**	**7**	**7**	**7**	**7**
MIC	**N of resistant isolates**	**5**	**0**	**0**	**5**	**0**	**5**
<=0.12		2					
0.25				2			
<=0.5							2
0.5				4			
<=1			7				
1				1		3	
2						4	
4					2		
8		2					
16		3					1
64					2		1
>64					3		3

Table Antimicrobial susceptibility testing of Campylobacter jejuni in Meat from poultry, unspecified - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**5**	**5**	**5**	**5**	**5**	**5**
MIC	**N of resistant isolates**	**3**	**0**	**0**	**3**	**0**	**2**
<=0.12		2					
0.25				2			
<=0.5							3
0.5				2			
<=1			5				
1				1		3	
2						1	
4					2	1	
8		1					
16		2					
64					1		
>64					2		2

Table Antimicrobial susceptibility testing of Campylobacter jejuni in Meat from broilers (Gallus gallus) - fresh - with skin

Sampling Stage: Slaughterhouse

Sampling Type: food sample - neck skin

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**6**	**6**	**6**	**6**	**6**	**6**
MIC	**N of resistant isolates**	**6**	**0**	**0**	**6**	**0**	**6**
0.25				1			
0.5				5			
<=1			6				
1						1	
2						5	
8		1					
16		5					1
64					1		
>64					5		5

Table Antimicrobial susceptibility testing of Campylobacter jejuni in Meat from broilers (Gallus gallus) - fresh - with skin

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**25**	**25**	**25**	**25**	**25**	**25**
MIC	**N of resistant isolates**	**14**	**0**	**0**	**14**	**0**	**12**
<=0.12		11		1			
0.25				8			
<=0.5							13
0.5				12			
<=1			25				
1				4		12	
2		1			2	8	
4					7	5	
8		5			2		1
16		3					1
>16		5					
32					1		
64					1		
>64					12		10

Table Antimicrobial susceptibility testing of Campylobacter jejuni in Meat from broilers (Gallus gallus) - fresh - skinned

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**21**	**21**	**21**	**21**	**21**	**21**
MIC	**N of resistant isolates**	**16**	**1**	**0**	**16**	**1**	**12**
<=0.12		4		1			
<=0.25						1	
0.25				5			
<=0.5							9
0.5		1		11			
<=1			20				
1				4		10	
2					1	8	
4					3	1	
8		7			1		
16		6					
>16		3				1	
32							1
64					1		1
>64					15		10
>128			1				

ANTIMICROBIAL RESISTANCE TABLES FOR SALMONELLA

Table Antimicrobial susceptibility testing of Salmonella Derby in Meat from pig - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**1**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**0.5**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**64**
	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							
<=2													1		
2		1													
<=4											1				
<=8						1									
8			1												
64												1			

Table Antimicrobial susceptibility testing of Salmonella Enteritidis in Meat from bovine animals - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**1**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**0.5**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**64**
	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**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.03										1					
0.03							1								
<=0.25				1										1	
<=0.5					1				1						
0.5															1
<=2													1		
2		1													
<=4											1				
4			1					1							
<=8						1									
32												1			

Table Antimicrobial susceptibility testing of Salmonella Infantis in Meat from bovine animals and pig - meat products

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**1**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**0.5**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**64**
	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				
<=8						1									
8			1												
256												1			

Table Antimicrobial susceptibility testing of Salmonella Livingstone in Gallus gallus (fowl) - broilers

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Census

Programme Code: AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**1**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**0.5**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**64**
	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	
<=0.5					1				1						
0.5															1
<=1								1							
<=2													1		
2		1													
<=4											1				
<=8						1									
8			1												
128												1			

Table Antimicrobial susceptibility testing of Salmonella Montevideo in Gallus gallus (fowl) - broilers

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Census

Programme Code: AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**1**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**0.5**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**64**
	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
<=0.5					1				1						
0.5														1	
<=1		1						1							
<=2													1		
<=4											1				
<=8						1									
8			1												
32												1			

Table Antimicrobial susceptibility testing of Salmonella Typhimurium in Meat from bovine animals and pig - meat products

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**1**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**0.5**	**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**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**
<=0.015							1								
<=0.03										1					
<=0.25				1											
<=0.5					1				1						
<=1								1							
1														1	
<=4											1				
4			1												
<=8						1									
>32															1
>64		1											1		
>1024												1			

Table Antimicrobial susceptibility testing of Salmonella Typhimurium in Cattle (bovine animals)

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Clinical investigations

Sampler: Not applicable

Sampling Strategy: Suspect sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

Sampling Details: N_A

	AM substance	Ampicillin	Azithromycin	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid	Chloramphenicol	Ciprofloxacin	Colistin	Ertapenem	Gentamicin	Imipenem
	ECOFF	**8**	**16**	**0.125**	**0.5**	**0.5**	**8**	**2**	**2**	**16**	**0.064**	**2**	**0.06**	**2**	**1**
	Lowest limit	**1**	**1**	**0.064**	**0.25**	**0.064**	**0.5**	**0.5**	**0.12**	**8**	**0.015**	**1**	**0.015**	**0.5**	**0.12**
	Highest limit	**64**	**64**	**16**	**4**	**64**	**64**	**8**	**128**	**128**	**8**	**16**	**2**	**32**	**16**
	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		1		
<=0.064				1		1									
<=0.25					1										
0.25									1						1
<=0.5								1						1	
<=1												1			
2		1													
4			1				1								
<=8										1					

Table Antimicrobial susceptibility testing of Salmonella Typhimurium in Cattle (bovine animals) - CONTINUED

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Clinical investigations

Sampler: Not applicable

Sampling Strategy: Suspect sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

	AM substance	Meropenem	Nalidixic acid	Sulfamethoxazole	Temocillin	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**0.125**	**16**	**256**	**32**	**8**	**1**	**2**
	Lowest limit	**0.03**	**4**	**0.5**	**0.5**	**2**	**0.25**	**0.25**
	Highest limit	**16**	**128**	**1024**	**64**	**64**	**8**	**64**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
<=0.03		1						
<=0.25							1	1
<=2						1		
<=4			1					
4					1			
>1024				1				

Table Antimicrobial susceptibility testing of Salmonella Typhimurium, monophasic in Cattle (bovine animals)

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Clinical investigations

Sampler: Not applicable

Sampling Strategy: Suspect sampling

Programme Code: OTHER AMR MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**1**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**0.5**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**64**
	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**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**5**	**0**	**0**
<=0.03										3					
0.03							5								
0.064										2					
<=0.25				5										5	5
<=0.5					5				5						
<=1								4							
2								1							
<=4											5				
4			4												
<=8						5									
8			1												
>64		5											5		
>1024												5			

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: Dilution - sensititre

Country of Origin: Luxembourg

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	Not Available	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			Not Available	Not Available	Not Available	Not Available
ECOFF	0.125	0.25	0.25	8	0.5		2			0.06	0.5	0.125	32
Lowest limit	0.064	0.25	0.064	0.5	0.25	0.5	0.12		0.5	0.015	0.12	0.03	0.5
Highest limit	32	64	64	64	128	8	8	128	8	2	16	16	64
N of tested isolates	37	37	37	37	37	37	37	37	37	37	37	37	37
MIC / N of resistant isolates	35	37	8	9	37	37	8	8	8	0	0	0	0
<=0.015										25			
<=0.03												37	
0.03										10			
<=0.064			29										
0.064										2			
<=0.12							28				29		
0.12	2												
0.25	9							1			8		
0.5	11												
1	4	1			4								
2	4	10			4	2							2
4	3	6	5	18	1				3				15
8	4	7	3	10	11	1			5				16
16		5		1	10								3
32		3		1	3								1
64		3		4									
>64		2		3									

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim		Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Not Available	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		Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	8	0.5		2		0.06	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.5	0.25	0.5	0.12	0.5	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	128	8	8 128	8	2	16	16	64
	N of tested isolates	37	37	37	37	37	37	37	37	37	37	37	37
MIC	N of resistant isolates	35	37	8	9	37	37	8	8	8	0	0	0
128						1							

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: Dilution - sensititre

Country of Origin: Luxembourg

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**	**0.25**	**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**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**
MIC	**N of resistant isolates**	**37**	**0**	**37**	**37**	**37**	**37**	**9**	**23**	**0**	**4**	**0**	**17**	**23**	**21**	**0**	**19**
<=0.015									12								
<=0.03												37					
0.03									2								
0.12									1								
<=0.25																35	13
0.25									5								
<=0.5											26						
0.5									8							2	4
<=1										37							
1				2	1	5			1		5						1
<=2			2												16		
2				7	1	3			3		2						
<=4													17				
4			26	7		1			1								
>4				21													
<=8								28						2			
8			9		1	13			2		1		2				
>8						11			2								
16											2		1	7			
32								4			1		1	4	1		
>32																	19
64								4					1	1	6		
>64		37													14		
128								1					4				
>128													11				
>1024														23			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Cattle (bovine animals)

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Clinical investigations

Sampler: Not applicable

Sampling Strategy: Suspect sampling

Programme Code: OTHER ESBL MON pnl2

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**Not Available**	**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**		**Not Available**	**Not Available**	**Not Available**	**Not Available**
	ECOFF	**0.125**	**0.25**	**0.25**	**8**	**0.5**	**2**		**0.06**	**0.5**	**0.125**	**32**
	Lowest limit	**0.064**	**0.25**	**0.064**	**0.5**	**0.25**	**0.12**	**0.5**	**0.015**	**0.12**	**0.03**	**0.5**
	Highest limit	**32**	**64**	**64**	**64**	**128**	**8**	**8**	**2**	**16**	**16**	**64**
	N of tested isolates	**26**	**25**	**26**	**26**	**25**	**26**	**26**	**26**	**26**	**26**	**26**
MIC	**N of resistant isolates**	**25**	**25**	**3**	**8**	**25**	**1**	**1**	**8**	**0**	**0**	**0**
<=0.015									10			
<=0.03											25	
0.03									8			
<=0.064		1		18								
0.064									3		1	
<=0.12							11			17		
0.12				4					4			
0.25				1			8		1	9		
<=0.5					1			5				
0.5		1										
1						3						
2		1	1	2		3		1				
4		7	2		8	6						6
8		6			9	8		1				16
16		7	2		5	4						3
32		2	1	1	2	1						1
>32		1										
64			11		1							
>64			8									

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Cattle (bovine animals)

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Clinical investigations

Sampler: Not applicable

Sampling Strategy: Suspect sampling

Programme Code: OTHER ESBL MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**25**	**26**	**26**	**26**	**26**	**26**
MIC	**N of resistant isolates**	**26**	**4**	**26**	**26**	**16**	**24**	**1**	**16**	**0**	**19**	**23**	**24**	**0**	**17**
<=0.015							2								
<=0.03										23					
0.064										2					
<=0.25														26	4
0.25							4								
<=0.5									7						
0.5							2								5
<=1								22							
1					3		1		2						
<=2			2										2		
2				1	3			3	1						
<=4											3				
4			10	2	6										
>4				23											
<=8						10									
8			9		8		1		2		4				
>8					6		16								
16			1						1			2			
>16								1							
32									4						
>32									9						17
64		1				1						1	3		
>64		25	4										21		
128						3					2				
>128						12					17				
1024												2			
>1024												21			

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

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Survey

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER ESBL MON pnl2

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**		**Not Available**	**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**		**Not Available**	**Not Available**	**Not Available**	**Not Available**
	ECOFF	**0.125**	**0.25**		**0.25**	**8**	**0.5**		**2**		**0.06**	**0.5**	**0.125**	**32**
	Lowest limit	**0.064**	**0.25**		**0.064**	**0.5**	**0.25**	**0.5**	**0.12**	**0.5**	**0.015**	**0.12**	**0.03**	**0.5**
	Highest limit	**32**	**4**	**64**	**64**	**64**	**128**	**128**	**8**	**8**	**2**	**16**	**16**	**64**
	N of tested isolates	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**
MIC	**N of resistant isolates**	**20**	**22**	**22**	**2**	**4**	**21**	**21**	**2**	**2**	**0**	**0**	**0**	**0**
<=0.015											14			
<=0.03													21	
0.03											8			
<=0.064					18									
0.064													1	
<=0.12									14			15		
0.12		2			2									
0.25		2							6			5		
0.5		2					1					2		
1		6		2			4	1						
2		4		2		1	1							1
4		2		7	1	7	1			2				9
>4			1											
8		4		1	1	10	8							10
16				3		2	4							2
32				3			2							
36				1										
64				2		2								

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

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Survey

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER ESBL MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**
MIC	**N of resistant isolates**	**22**	**0**	**22**	**22**	**6**	**12**	**0**	**3**	**0**	**6**	**13**	**12**	**0**	**7**
<=0.015							9								
<=0.03										22					
0.03							1								
0.12							1								
<=0.25														21	7
0.25							4								
<=0.5									17						
0.5							5							1	7
<=1								22							
1				1	4				2						1
<=2			4										10		
2				3	2										
<=4											10				
4			11	8	4										
>4				10											
<=8						16						2			
8			6		7						6				
>8					5		2								
16			1						1			5			
32									1		1	2			
>32									1						7
64		1				1							2		
>64		21											10		
128						2					3				
>128						3					2				
>1024												13			

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

Sampling Stage: Farm

Sampling Type: environmental sample - dust

Sampling Context: Survey

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER ESBL MON pnl2

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**Not Available**	**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**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
	ECOFF	**0.125**	**0.25**	**0.25**	**8**	**0.5**	**2**	**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**	**8**	**2**	**16**	**16**	**64**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
<=0.015								1			
<=0.03										1	
<=0.064				1							
<=0.12							1		1		
0.5		1									
4											1
8			1		1						
32						1					

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

Sampling Stage: Farm

Sampling Type: environmental sample - dust

Sampling Context: Survey

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER ESBL MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.015							1								
<=0.03										1					
<=0.25														1	1
<=0.5									1						
<=1								1							
<=2													1		
<=4											1				
4				1											
<=8						1						1			
8			1		1										
>64		1													

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER ESBL MON pnl2

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**Not Available**	**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**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
	ECOFF	**0.125**	**0.25**	**0.25**	**8**	**0.5**	**2**	**0.06**	**0.5**	**0.125**	**32**
	Lowest limit	**0.064**	**0.25**	**0.064**	**0.5**	**0.5**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
	Highest limit	**32**	**4**	**64**	**64**	**8**	**8**	**2**	**16**	**16**	**64**
	N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
MIC	**N of resistant isolates**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
<=0.015								1			
<=0.03										1	
<=0.064		1		1							
<=0.12							1		1		
1			1								
2						1					
8					1						1

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from broilers (Gallus gallus) - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample - meat

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER ESBL MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**0.25**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**64**	**128**	**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**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**
<=0.015							1								
<=0.03										1					
<=0.25														1	
<=1								1							
1				1					1						
<=2													1		
2					1										
<=4											1				
<=8						1									
8			1												
>32															1
>64		1													
>1024												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: ESBL MON pnl2

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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**	**Not Available**	**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**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
	ECOFF	**0.125**	**0.25**	**0.25**	**8**	**0.5**	**2**	**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**	**8**	**2**	**16**	**16**	**64**
	N of tested isolates	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**
MIC	**N of resistant isolates**	**2**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**
<=0.015								2			
<=0.03										1	
<=0.064				2							
0.064										1	
<=0.12							1		1		
0.25							1		1		
0.5		1									
1						1					
2		1	1								
4					2						1
8											1
16			1			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: ESBL MON

Analytical Method: Dilution - sensititre

Country of Origin: Luxembourg

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	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**
MIC	**N of resistant isolates**	**2**	**0**	**2**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**
<=0.015							1								
<=0.03										2					
<=0.25														2	1
0.25							1								
<=0.5									2						
0.5															1
<=1								2							
1					1										
<=2													1		
2				1											
<=4											2				
4			1												
>4				1											
<=8						2									
8			1												
>8					1										
16												1			
>64		2											1		
>1024												1			

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	06-Jul-2017
Animal Population	22-May-2017
Disease Status	11-May-2017
Food Borne Outbreaks	01-Jun-2017
Prevalence	01-Jun-2017
Text Forms	31-May-2017