European Food Safety Authority

ZOONOSES MONITORING

Latvia

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

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

IN 2017

PREFACE

This report is submitted to the European Commission in accordance with Article 9 of Council Directive 2003/99/ EC*. The information has also been forwarded to the European Food Safety Authority (EFSA).

The report contains information on trends and sources of zoonoses and zoonotic agents in Latvia during the year 2017.

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.

The national report contains two parts: tables summarising data reported in the Data Collection Framework and the related text forms. The text forms were sent by email as pdf files and they are incorporated at the end of the report.

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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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ANIMAL POPULATION TABLES

Table Susceptible animal population

		Population			
Animal species	**Category of animals**	**holding**	**animal**	**slaughter animal (heads)**	**herd/flock**
Cattle (bovine animals)	Cattle (bovine animals)	21,619	405,820	85,677	21,619
Deer	Deer - farmed	152	22,313		152
Gallus gallus (fowl)	Gallus gallus (fowl) - broilers	3	2,012,040	19,226,161	70
	Gallus gallus (fowl) - laying hens	14	2,024,407		53
	Gallus gallus (fowl) - parent breeding flocks for broiler production line	2	250,939		35
Goats	Goats	2,194	12,757	251	2,194
Pigs	Pigs	3,374	318,778	447,034	3,374
Quails	Quails - laying hens	40	28,719	42,032	40
Sheep	Sheep	3,544	112,208	27,127	3,544
Solipeds, domestic	Solipeds, domestic	2,796	8,870	87	2,796
Turkeys	Turkeys - fattening flocks	1	10,688	13,382	3

DISEASE STATUS TABLES

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

Region	Number of herds with status officially free	Number of infected herds	Total number of herds
LATVIJA (NUTS level 1)	21,619	0	21,619

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

Region	Number of herds with status officially free	Number of infected herds	Total number of herds
LATVIJA (NUTS level 1)	5,738	0	5,738

DISEASE STATUS TABLES

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

Region	Number of herds with status officially free	Number of infected herds	Total number of herds
LATVIJA (NUTS level 1)	21,619	0	21,619

PREVALENCE TABLES

Table Brucella:BRUCELLA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Pigs - breeding animals - Farm - Latvia - animal sample - blood - Control and eradication programmes - Industry sampling - Objective sampling	Not Available	animal	9007	0	Brucella	0
	Pigs - breeding animals - Farm - Latvia - animal sample - Control and eradication programmes - Industry sampling - Objective sampling	Not Available	animal	4	0	Brucella	0
	Pigs - breeding animals - unspecified - sows - Farm - Latvia - animal sample - foetus/stillbirth - Control and eradication programmes - Industry sampling - Objective sampling	Not Available	animal	7	0	Brucella	0

Table Campylobacter:CAMPYLOBACTER in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cats - pet animals - Veterinary clinics - Latvia - animal sample - Clinical investigations - Not applicable - Suspect sampling	Not Available	animal	28	3	Campylobacter jejuni	3
	Cattle (bovine animals) - adult cattle over 2 years - Farm - Latvia - animal sample - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	1	0	Campylobacter	0
	Cattle (bovine animals) - adult cattle over 2 years - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	248	0	Campylobacter	0
	Cattle (bovine animals) - calves (under 1 year) - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	59	8	Campylobacter coli	2
						Campylobacter jejuni	6
	Dogs - pet animals - Veterinary clinics - Latvia - animal sample - faeces - Clinical investigations - Not applicable - Suspect sampling	Not Available	animal	38	0	Campylobacter	0
	Pigs - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	5	0	Campylobacter	0
	Sheep - Farm - Latvia - animal sample - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	1	0	Campylobacter	0
	Sheep - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	10	0	Campylobacter	0

Table Echinococcus:ECHINOCOCCUS in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cattle (bovine animals) - Slaughterhouse - Latvia - Not Available - Surveillance - Official sampling - Census	Not Available	animal	85677	0	Echinococcus	0
	Goats - Slaughterhouse - Latvia - Not Available - Surveillance - Official sampling - Census	Not Available	animal	251	0	Echinococcus	0
	Pigs - fattening pigs - not raised under controlled housing conditions - Slaughterhouse - Latvia - Not Available - Surveillance - Official sampling - Census	Not Available	animal	447034	0	Echinococcus	0
	Sheep - Slaughterhouse - Latvia - Not Available - Surveillance - Official sampling - Census	Not Available	animal	27127	0	Echinococcus	0
	Solipeds, domestic - horses - Slaughterhouse - Latvia - Not Available - Surveillance - Official sampling - Census	Not Available	animal	87	0	Echinococcus	0

Table Escherichia coli: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	Method	total units tested	total units positive	Zoonoses	ANTH	VTX	AG	N units positive
Not Available	Meat from deer (venison) - meat products - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	ISO/TS 13136:2012 (including the EU-RL adaptation for O104:H4)	10	0	Verocytotoxigenic E. coli (VTEC)	Not Available	Not Available	Not Available	0
	Meat from pig - meat products - cooked, ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	ISO/TS 13136:2012 (including the EU-RL adaptation for O104:H4)	20	0	Verocytotoxigenic E. coli (VTEC)	Not Available	Not Available	Not Available	0
	Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	ISO/TS 13136:2012 (including the EU-RL adaptation for O104:H4)	30	0	Verocytotoxigenic E. coli (VTEC)	Not Available	Not Available	Not Available	0
	Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	ISO/TS 13136:2012 (including the EU-RL adaptation for O104:H4)	10	0	Verocytotoxigenic E. coli (VTEC)	Not Available	Not Available	Not Available	0
	Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Spain - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	ISO/TS 13136:2012 (including the EU-RL adaptation for O104:H4)	15	0	Verocytotoxigenic E. coli (VTEC)	Not Available	Not Available	Not Available	0
	Seeds, sprouted - non-ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	ISO/TS 13136:2012 (including the EU-RL adaptation for O104:H4)	10	0	Verocytotoxigenic E. coli (VTEC)	Not Available	Not Available	Not Available	0

Table Escherichia coli, non-pathogenic:ESCHERICHIA COLI, NON-PATHOGENIC in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Pigs - fattening pigs - Slaughterhouse - Latvia - animal sample - caecum - Monitoring - Official sampling - Objective sampling	Not Available	herd/flock	149	149	Escherichia coli, non-pathogenic	149

Table HISTAMINE in food

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

Table Listeria:LISTERIA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cattle (bovine animals) - adult cattle over 2 years - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	Microbiological tests	animal	248	40	Listeria innocua	28
						Listeria monocytogenes	8
						Listeria spp., unspecified	4
	Goats - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	Microbiological tests	animal	1	0	Listeria	0
	Pigs - breeding animals - unspecified - sows - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	Microbiological tests	animal	7	1	Listeria monocytogenes	1
	Sheep - animals over 1 year - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	Microbiological tests	animal	10	2	Listeria monocytogenes	1
						Listeria seeligeri	1
	Sheep - animals over 1 year - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	Microbiological tests	animal	15	1	Listeria monocytogenes	1
	Solipeds, domestic - horses - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	Microbiological tests	animal	1	1	Listeria monocytogenes	1

Table Listeria: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 - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	20	0	<= 100	Listeria monocytogenes	20	0
							>100	Listeria monocytogenes	20	0
	Cheeses made from cows' milk - fresh - made from pasteurised milk - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	20	0	<= 100	Listeria monocytogenes	20	0
							>100	Listeria monocytogenes	20	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	10	0	<= 100	Listeria monocytogenes	10	0
							>100	Listeria monocytogenes	10	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	55	0	<= 100	Listeria monocytogenes	55	0
							>100	Listeria monocytogenes	55	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	10	0	<= 100	Listeria monocytogenes	10	0
							>100	Listeria monocytogenes	10	0
	Fish - smoked - cold-smoked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	40	5	<= 100	Listeria monocytogenes	40	0
							>100	Listeria monocytogenes	40	5
	Fish - smoked - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	60	0	<= 100	Listeria monocytogenes	60	0
							>100	Listeria monocytogenes	60	0
	Fishery products, unspecified - ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	10	0	<= 100	Listeria monocytogenes	10	0
							>100	Listeria monocytogenes	10	0
	Fishery products, unspecified - ready-to-eat - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	10	0	<= 100	Listeria monocytogenes	10	0
							>100	Listeria monocytogenes	10	0
	Meat from pig - meat products - cooked, ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	25	0	<= 100	Listeria monocytogenes	25	0
							>100	Listeria monocytogenes	25	0
	Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	25	0	<= 100	Listeria monocytogenes	25	0
							>100	Listeria monocytogenes	25	0
	Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	55	0	<= 100	Listeria monocytogenes	55	0
							>100	Listeria monocytogenes	55	0
	Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	30	0	<= 100	Listeria monocytogenes	30	0
							>100	Listeria monocytogenes	30	0
	Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	1	Gram	10	3	<= 100	Listeria monocytogenes	10	3
							>100	Listeria monocytogenes	10	0

Table Lyssavirus:LYSSAVIRUS in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Latvija (NUTS level 2)	Badgers - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	11	0	Lyssavirus	0
	Cats - Veterinary clinics - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	21	0	Lyssavirus	0
	Cattle (bovine animals) - Farm - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	2	0	Lyssavirus	0
	Deer - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	1	0	Lyssavirus	0
	Deer - wild - roe deer - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	2	0	Lyssavirus	0
	Dogs - Veterinary clinics - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	5	0	Lyssavirus	0
	Foxes - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	484	0	Lyssavirus	0
	Jackals - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	1	0	Lyssavirus	0
	Marten - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	6	0	Lyssavirus	0
	Minks - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	1	0	Lyssavirus	0
	Raccoon dogs - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	401	0	Lyssavirus	0
	Rats - pet animal - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	1	0	Lyssavirus	0
	Solipeds, domestic - horses - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	1	0	Lyssavirus	0
	Wild boars - wild - Natural habitat - Latvia - animal sample - brain - Monitoring - passive - Official sampling - Suspect sampling	Not Available	animal	2	0	Lyssavirus	0

Table Mycobacterium:MYCOBACTERIUM in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cattle (bovine animals) - Farm - Latvia - Not Available - Surveillance - Official sampling - Objective sampling	Skin test	animal	3337	0	Mycobacterium	0
	Deer - farmed - red deer - Farm - Latvia - Not Available - Surveillance - Industry sampling - Other	Skin test	animal	59	0	Mycobacterium	0
	Gallus gallus (fowl) - laying hens - adult - Farm - Latvia - Not Available - Surveillance - Industry sampling - Objective sampling	Skin test	animal	751	0	Mycobacterium	0

Table Salmonella: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	Method	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cattle (bovine animals) - calves (under 1 year) - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	59	0	Salmonella	0
	Cattle (bovine animals) - calves (under 1 year) - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	42	3	Salmonella Typhimurium	3
	Cattle (bovine animals) - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	9	1	Salmonella Typhimurium	1
	Cattle (bovine animals) - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	248	0	Salmonella	0
	Cattle (bovine animals) - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	35	2	Salmonella spp., unspecified	1
								Salmonella Typhimurium	1
	Ducks - meat production flocks - Farm - Latvia - environmental sample - boot swabs - Surveillance - Official sampling - Objective sampling	herd/flock		N_A	Not Available	5	3	Salmonella Coeln	1
								Salmonella Typhimurium	2
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock	677	N	Not Available	677	3	Salmonella Anatum	2
								Salmonella Mbandaka	1
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	680	Y	Not Available	680	3	Salmonella Anatum	2
								Salmonella Mbandaka	1
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Objective sampling	herd/flock	3	N	Not Available	3	0	Salmonella	0
	Gallus gallus (fowl) - laying hens - adult - Farm - Latvia - environmental sample - boot swabs - Surveillance - Official and industry sampling - Objective sampling	herd/flock		N_A	Not Available	137	13	Salmonella Coeln	1
								Salmonella Enteritidis	8
								Salmonella Give	1
								Salmonella Kottbus	1
								Salmonella Mbandaka	2
	Gallus gallus (fowl) - laying hens - adult - Farm - Latvia - environmental sample - boot swabs and dust - Control and eradication programmes - Official and industry sampling - Census	herd/flock	53	Y	Not Available	53	3	Salmonella Enteritidis	3
	Gallus gallus (fowl) - laying hens - day-old chicks - Farm - Not Available - animal sample - organ/tissue - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	Not Available	18	0	Salmonella	0
	Gallus gallus (fowl) - laying hens - during rearing period - Farm - Latvia - animal sample - faeces - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	Not Available	21	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	35	Y	Not Available	35	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - Farm - Finland - animal sample - organ/tissue - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	Not Available	22	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock		N_A	Not Available	29	0	Salmonella	0
	Geese - meat production flocks - Farm - Latvia - environmental sample - boot swabs - Surveillance - Official sampling - Objective sampling	herd/flock		N_A	Not Available	3	1	Salmonella Coeln	1
	Goats - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	1	0	Salmonella	0
	Pigs - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	5	0	Salmonella	0
	Pigs - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	7	0	Salmonella	0
	Pigs - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	36	0	Salmonella	0
	Quails - laying hens - Farm - Latvia - animal sample - faeces - Surveillance - Official sampling - Objective sampling	herd/flock		N_A	Not Available	40	6	Salmonella Bredeney	1
								Salmonella Coeln	4
								Salmonella Give	1
	Sheep - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	3	0	Salmonella	0
	Sheep - Farm - Latvia - animal sample - foetus/stillbirth - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	10	0	Salmonella	0
	Sheep - Farm - Latvia - animal sample - nasal swab - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	9	3	Salmonella IIIb 61:k:1,5,(7)	3
	Sheep - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	animal		N_A	Not Available	8	0	Salmonella	0
	Turkeys - fattening flocks - before slaughter - Farm - Latvia - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock	3	Y	Not Available	3	0	Salmonella	0

Table Salmonella: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	Method	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cheeses made from cows' milk - fresh - made from pasteurised milk - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	20	0	Salmonella	0
	Cheeses made from cows' milk - fresh - made from pasteurised milk - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Dairy products (excluding cheeses) - butter - made from pasteurised milk - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	20	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Greece - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	95	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	20	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Netherlands - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Dairy products (excluding cheeses) - dairy products, not specified - made from pasteurised milk - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	20	0	Salmonella	0
	Egg products - liquid - Processing plant - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	25	0	Salmonella	0
	Egg products - liquid - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Fish - smoked - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	65	0	Salmonella	0
	Fish - smoked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	50	0	Salmonella	0
	Fishery products, unspecified - Retail - Belarus - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Fishery products, unspecified - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	60	0	Salmonella	0
	Fishery products, unspecified - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	30	0	Salmonella	0
	Fishery products, unspecified - Retail - Vietnam - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Fruits - non-pre-cut - frozen - Retail - Belgium - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Fruits - non-pre-cut - frozen - Retail - Hungary - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Fruits - non-pre-cut - frozen - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Fruits - non-pre-cut - frozen - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Fruits - non-pre-cut - frozen - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	15	0	Salmonella	0
	Meat from bovine animals - carcase - Slaughterhouse - Latvia - food sample - carcase swabs - Surveillance - Official sampling - Objective sampling	slaughter animal batch	100	Square centimetre	Not Available	150	0	Salmonella	0
	Meat from bovine animals - meat preparation - intended to be eaten cooked - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Meat from bovine animals - meat preparation - intended to be eaten cooked - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Meat from broilers (Gallus gallus) - carcase - Slaughterhouse - Latvia - food sample - neck skin - Surveillance - Official sampling - Objective sampling	single (food/feed)	25	Gram	Not Available	50	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	40	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Retail - Finland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Retail - Germany - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	135	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	85	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Retail - Netherlands - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	85	6	Salmonella Infantis	5
								Salmonella Kentucky	1
	Meat from broilers (Gallus gallus) - fresh - Retail - Ukraine - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Meat from broilers (Gallus gallus) - fresh - Retail - United Kingdom - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	20	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	40	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Meat from broilers (Gallus gallus) - meat products - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	15	0	Salmonella	0
	Meat from broilers (Gallus gallus) - minced meat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	35	4	Salmonella Enteritidis	4
	Meat from duck - fresh - chilled - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Meat from pig - carcase - Slaughterhouse - Latvia - food sample - carcase swabs - Surveillance - based on Regulation 2073 - HACCP and own check - Objective sampling	single (food/feed)	400	Square centimetre	Not Available	654	0	Salmonella	0
	Meat from pig - carcase - Slaughterhouse - Latvia - food sample - carcase swabs - Surveillance - Official sampling - Objective sampling	slaughter animal batch	100	Square centimetre	Not Available	300	1	Salmonella Derby	1
	Meat from pig - meat preparation - intended to be eaten cooked - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	Not Available	15	0	Salmonella	0
	Meat from pig - meat preparation - intended to be eaten cooked - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	Not Available	100	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Meat from pig - meat preparation - intended to be eaten cooked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	Not Available	15	0	Salmonella	0
	Meat from pig - meat products - cooked, ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	25	0	Salmonella	0
	Meat from pig - meat products - cooked, ready-to-eat - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Meat from pig - minced meat - intended to be eaten cooked - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	Not Available	10	0	Salmonella	0
	Meat from pig - minced meat - intended to be eaten cooked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	10	Gram	Not Available	15	0	Salmonella	0
	Meat from poultry, unspecified - meat preparation - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Meat from poultry, unspecified - meat preparation - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	45	0	Salmonella	0
	Meat from poultry, unspecified - meat preparation - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	25	0	Salmonella	0
	Meat from poultry, unspecified - meat preparation - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Meat from sheep - carcase - Slaughterhouse - Latvia - food sample - carcase swabs - Surveillance - Official sampling - Objective sampling	slaughter animal batch	100	Square centimetre	Not Available	50	0	Salmonella	0
	Meat from turkey - meat products - cooked, ready-to-eat - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Meat from turkey - minced meat - intended to be eaten cooked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Meat from turkey - offal - liver - chilled - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Meat, mixed meat - meat preparation - intended to be eaten cooked - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	15	4	Salmonella Infantis	3
								Salmonella Typhimurium	1
	Meat, mixed meat - meat products - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	25	0	Salmonella	0
	Meat, mixed meat - meat products - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	155	1	Salmonella Infantis	1
	Meat, mixed meat - meat products - Retail - Lithuania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	40	0	Salmonella	0
	Meat, mixed meat - meat products - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	20	0	Salmonella	0
	Spices and herbs - dried - Retail - Croatia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Spices and herbs - dried - Retail - Egypt - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Spices and herbs - dried - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Spices and herbs - dried - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	15	0	Salmonella	0
	Spices and herbs - dried - Retail - Nigeria - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Method	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Spices and herbs - dried - Retail - Poland - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Spices and herbs - dried - Retail - Vietnam - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Vegetables - leaves - Retail - Estonia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	10	0	Salmonella	0
	Vegetables - leaves - Retail - Italy - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	20	0	Salmonella	0
	Vegetables - leaves - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Vegetables - leaves - Retail - Spain - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	40	0	Salmonella	0
	Vegetables - leaves - Retail - Sweden - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Vegetables - non-pre-cut - Retail - Albania - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Vegetables - non-pre-cut - Retail - Belgium - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Vegetables - non-pre-cut - Retail - Denmark - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Vegetables - non-pre-cut - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	15	0	Salmonella	0
	Vegetables - non-pre-cut - Retail - Morocco - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	20	0	Salmonella	0
	Vegetables - non-pre-cut - Retail - Spain - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	50	0	Salmonella	0
	Vegetables - pre-cut - Retail - Latvia - food sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0

Table Salmonella: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	Method	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Complementary feedingstuffs - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	4	1	Salmonella Senftenberg	1
	Compound feedingstuffs for cattle - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	2	0	Salmonella	0
	Compound feedingstuffs for pigs - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	3	0	Salmonella	0
	Compound feedingstuffs for poultry (non specified) - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	3	0	Salmonella	0
	Compound feedingstuffs for poultry, breeders - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	3	0	Salmonella	0
	Compound feedingstuffs for poultry, broilers - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	0	Salmonella	0
	Compound feedingstuffs for poultry, laying hens - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	11	0	Salmonella	0
	Feed material of marine animal origin - fish meal - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	5	2	Salmonella Cerro	1
								Salmonella Senftenberg	1
	Pet food - final product - Feed mill - Latvia - feed sample - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	Not Available	6	0	Salmonella	0

Table Toxoplasma:TOXOPLASMA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cats - pet animals - Veterinary clinics - Latvia - animal sample - blood - Clinical investigations - Not applicable - Suspect sampling	Latex agglutination test (LAT)	animal	94	21	Toxoplasma gondii	21
	Cattle (bovine animals) - Farm - Latvia - animal sample - blood - Clinical investigations - Private sampling - Suspect sampling	Latex agglutination test (LAT)	animal	19	1	Toxoplasma gondii	1
	Dogs - pet animals - Veterinary clinics - Latvia - animal sample - blood - Clinical investigations - Not applicable - Suspect sampling	Latex agglutination test (LAT)	animal	55	15	Toxoplasma gondii	15
	Goats - Farm - Latvia - animal sample - blood - Clinical investigations - Private sampling - Suspect sampling	Latex agglutination test (LAT)	animal	1	1	Toxoplasma gondii	1
	Pigs - Farm - Latvia - animal sample - blood - Clinical investigations - Private sampling - Suspect sampling	Latex agglutination test (LAT)	animal	2	0	Toxoplasma	0
	Sheep - Farm - Latvia - animal sample - blood - Clinical investigations - Private sampling - Suspect sampling	Latex agglutination test (LAT)	animal	44	24	Toxoplasma gondii	24

Table Trichinella:TRICHINELLA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Beavers - wild - Hunting - Latvia - animal sample - organ/tissue - Monitoring - Not applicable - Census	Not Available	animal	16	1	Trichinella, unspecified sp.	1
	Pigs - fattening pigs - not raised under controlled housing conditions - Slaughterhouse - Latvia - animal sample - organ/tissue - Surveillance - Official sampling - Census	Not Available	animal	447034	0	Trichinella	0
	Solipeds, domestic - horses - Slaughterhouse - Latvia - animal sample - organ/tissue - Surveillance - Official sampling - Census	Not Available	animal	87	0	Trichinella	0
	Wild boars - wild - Hunting - Latvia - animal sample - organ/tissue - Surveillance - Official sampling - Census	Not Available	animal	5194	21	Trichinella, unspecified sp.	21

Table Yersinia:YERSINIA in animal

Area of Sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Method	Sampling unit	Total units tested	Total units positive	Zoonoses	N of units positive
Not Available	Cattle (bovine animals) - calves (under 1 year) - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	59	2	Yersinia pseudotuberculosis	1
						Yersinia, unspecified sp.	1
	Cattle (bovine animals) - Farm - Latvia - animal sample - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	16	1	Yersinia enterocolitica	1
	Pigs - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	5	0	Yersinia	0
	Pigs - Farm - Latvia - animal sample - organ/tissue - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	36	0	Yersinia	0
	Sheep - Farm - Latvia - animal sample - faeces - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	3	0	Yersinia	0
	Solipeds, domestic - horses - Farm - Latvia - animal sample - Clinical investigations - Industry sampling - Suspect sampling	Not Available	animal	2	0	Yersinia	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	Unknown						3	6	3	0
Norovirus	Cheese		1	35	4	0				
Rotavirus	Unknown						1	2	2	0
Salmonella Enteritidis	Unknown						12	49	19	0
Staphylococcus aureus	Bakery products		2	15	0	0				
	Unknown						1	9	2	0
Tick-borne encephalitis virus (TBE)	Milk						1	3	3	0
Unknown	Unknown						1	3	3	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
Norovirus	Not Available	N_A	General	Cheese	N_A	Descriptive environmental evidence	School or kindergarten	Unknown	Unknown	Not Available	N_A	1	35	4	0
Staphylococcus aureus	Not Available	N_A	Household	Bakery products	N_A	Detection of causative agent in food chain or its environment - Detection of indistinguishable causative agent in humans	Household	Household	Unknown	Not Available	S. aureus	2	15	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
Campylobacter jejuni	Not Available	N_A	Household	Unknown	N_A	Unknown	Household	Household	Unknown	Not Available	N_A	3	6	3	0
Rotavirus	Not Available	N_A	Household	Unknown	N_A	Unknown	School or kindergarten	Unknown	Unknown	Not Available	N_A	1	2	2	0
Salmonella Enteritidis	Not Available	N_A	General	Unknown	N_A	Unknown	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Unknown	Unknown	Not Available	N_A	1	13	5	0
			Household	Unknown	N_A	Unknown	Household	Unknown	Unknown	Not Available	N_A	11	36	14	0
Staphylococcus aureus	Not Available	N_A	General	Unknown	N_A	Unknown	Temporary mass catering (fairs or festivals)	Unknown	Unknown	Not Available	S. aureus	1	9	2	0
Tick-borne encephalitis virus (TBE)	Not Available	N_A	Household	Milk	N_A	Descriptive environmental evidence	Household	Household	Unknown	Not Available	N_A	1	3	3	0
Unknown	Not Available	N_A	General	Unknown	N_A	Unknown	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Restaurant or Cafe or Pub or Bar or Hotel or Catering service	Unknown	Not Available	N_A	1	3	3	0

ANTIMICROBIAL RESISTANCE TABLES FOR CAMPYLOBACTER

ANTIMICROBIAL RESISTANCE TABLES FOR SALMONELLA

Table Antimicrobial susceptibility testing of Salmonella Anatum in Gallus gallus (fowl) - broilers - before slaughter

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Control and eradication programmes

Sampler: Industry sampling

Sampling Strategy: Census

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

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

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

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

Sampling Stage: Farm

Sampling Type: animal sample - faeces

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

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

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

Table Antimicrobial susceptibility testing of Salmonella Coeln in Geese - meat production flocks

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

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

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

Table Antimicrobial susceptibility testing of Salmonella Derby in Meat from pig - carcase

Sampling Stage: Slaughterhouse

Sampling Type: food sample - carcase swabs

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Latvia

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

Table Antimicrobial susceptibility testing of Salmonella Enteritidis in Meat from broilers (Gallus gallus) - minced meat

Sampling Stage: Retail

Sampling Type: food sample

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

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

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

	AM substance	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
	ECOFF	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**	**2**	**0.125**	**16**	**256**	**8**	**1**	**2**
	Lowest limit	**1**	**2**	**0.25**	**0.5**	**8**	**0.015**	**1**	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
	Highest limit	**64**	**64**	**4**	**8**	**128**	**8**	**16**	**32**	**16**	**128**	**1024**	**64**	**8**	**32**
	N of tested isolates	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.015							4								
<=0.03										7					
0.03							3								
<=0.25				7										6	6
<=0.5					7				7						
0.5														1	1
<=1		6						5							
<=2													7		
2		1						1							
<=4											6				
4			4					1							
<=8						7									
8			3								1				
32												3			
64												4			

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

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs and dust

Sampling Context: Control and eradication programmes

Sampler: Official and industry sampling

Sampling Strategy: Census

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

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

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

Table Antimicrobial susceptibility testing of Salmonella Infantis in Meat from broilers (Gallus gallus) - fresh

Sampling Stage: Retail

Sampling Type: food sample

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Poland

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

Table Antimicrobial susceptibility testing of Salmonella Infantis in Meat, mixed meat - meat products

Sampling Stage: Retail

Sampling Type: food sample

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

Table Antimicrobial susceptibility testing of Salmonella Infantis in Meat, mixed meat - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Lithuania

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

Table Antimicrobial susceptibility testing of Salmonella Kentucky in Meat from broilers (Gallus gallus) - fresh

Sampling Stage: Retail

Sampling Type: food sample

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Poland

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

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

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

Table Antimicrobial susceptibility testing of Salmonella Mbandaka in Gallus gallus (fowl) - broilers - before slaughter

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Control and eradication programmes

Sampler: Industry sampling

Sampling Strategy: Census

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

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

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Official and industry sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

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

Sampling Stage: Farm

Sampling Type: environmental sample - boot swabs

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Latvia

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

Table Antimicrobial susceptibility testing of Salmonella Typhimurium in Meat, mixed meat - meat preparation - intended to be eaten cooked

Sampling Stage: Retail

Sampling Type: food sample

Sampling Context: Surveillance

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: OTHER AMR MON

Analytical Method:

Country of Origin: Lithuania

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

ANTIMICROBIAL RESISTANCE TABLES FOR INDICATOR ESCHERICHIA COLI

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from bovine animals - 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:

Country of Origin: Lithuania

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

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from bovine animals - 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:

Country of Origin: Lithuania

	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**	**1**	**1**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**
<=0.03										1					
<=0.25														1	1
0.25							1								
<=1								1							
<=2													1		
>4				1											
>8					1										
16			1												
32									1						
>64		1													
128						1									
>128											1				
>1024												1			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from bovine animals - 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:

Country of Origin: Latvia

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid		Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid		Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available		Not Available	Not Available	Not Available	Not Available
	Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available
	ECOFF	0.125	0.25	0.25	0.25	8	0.5	0.5	0.5	0.06	0.5	0.125	32
	Lowest limit	0.064	0.25	0.064	0.064	0.5	0.25	0.12	0.12	0.015	0.12	0.03	0.5
	Highest limit	32	64	64	64	64	128	128	128	2	16	16	64
	N of tested isolates	11	11	11	11	11	11	11	11	11	11	11	11
MIC	N of resistant isolates	11	11	2	2	2	11	2	2	0	0	0	0
<=0.015										8			
<=0.03												11	
0.03										1			
<=0.064				8									
0.064										2			
<=0.12								8			9		
0.12				1									
0.25		1						1			2		
0.5		1											
1							5						
2		1				2	1						
4		5				4	1						5
8		2	1		2	3	2		2				5
16		1	3				1						1
32			4				1						
64			3			2							

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from bovine animals - 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:

Country of Origin: Latvia

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

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON pnl2

Analytical Method:

Country of Origin: Latvia

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid	Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
	Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
	ECOFF	**0.125**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.06**	**0.5**	**0.125**	**32**
	Lowest limit	**0.064**	**0.25**	**0.064**	**0.5**	**0.25**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
	Highest limit	**32**	**64**	**64**	**64**	**128**	**128**	**2**	**16**	**16**	**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		
4		1									
8					1	1					1
32			1								

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method:

Country of Origin: Latvia

	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	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
MIC	**N of resistant isolates**	**40**	**0**	**1**	**1**	**6**	**14**	**0**	**3**	**0**	**5**	**33**	**47**	**0**	**20**
<=0.015							131								
<=0.03										148					
0.03							4								
0.064										1					
<=0.25				148										143	105
0.25							8								
<=0.5					148				89						
0.5							5							6	23
<=1		8						148							
1									46						1
<=2			2										100		
2		61						1	11						
<=4											132				
4		38	51										2		
>4				1											
<=8						142						63			
8		2	92				1				11				
>8					1										
16			4			1			2		1	37			
32						2						15	2		
>32									1						20
64		1				3					1	1	17		
>64		39											28		
128						1					1				
>128											3				
>1024												33			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs

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:

Country of Origin: Latvia

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	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Ceftazidime synergy test	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Positive/Present	Negative/Absent	Not Available	Not Available	Not Available	Not Available
ECOFF	0.125	0.25	0.25	0.25	0.25	8	0.5	0.5	0.5	0.5	0.06	0.5	0.125	32
Lowest limit	0.064	0.25	0.064	0.064	0.064	0.5	0.25	0.12	0.12	0.12	0.015	0.12	0.03	0.5
Highest limit	32	64	64	64	64	64	128	128	128	128	2	16	16	64
N of tested isolates	69	69	69	69	69	69	69	69	69	69	69	69	69	69
MIC / **N of resistant isolates**	69	69	9	9	9	10	66	8	8	8	0	0	0	0
<=0.015											53			
<=0.03													66	
0.03											15			
<=0.064				58										
0.064											1		3	
<=0.12									49			54		
0.12				2										
<=0.25							1							
0.25	4							1	11			12		
0.5	3						2					3		
1	3				1		25							
2	7	1		1		12	11							5
4	20	4	1			34	13	1		1				35
8	17	6			6	13	10			4				29
16	10	11				1	6			2				
32	4	18					1							
>32	1													
64		21				8								
>64		8				1								

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Pigs - fattening pigs

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: ESBL MON

Analytical Method:

Country of Origin: Latvia

	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	4	8	128	8	16	32	16	128	1024	64	8	32
	N of tested isolates	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
MIC	N of resistant isolates	69	5	69	66	66	9	17	5	20	0	9	51	30	0	37
<=0.015								48								
<=0.03											66					
0.03								4								
0.064											3					
0.12								2								
<=0.25															63	23
0.25								4								
<=0.5						3				32						
0.5								5							6	7
<=1									60							
1						24		1		17						2
<=2														37		
2						12			4							
<=4												52				
4			21	2		14			5					2		
>4				67	1											
<=8							59						11			
8			39			13		2		1		3				
>8						2		3								
16			4				1			8		5	6			
32							2			7		2	1	1		
>32										4						37
64			5				6					1		11		
>64		69												18		
128							1					1				
>128												5				
>1024													51			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from pig - 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:

Country of Origin: Latvia

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

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from pig - 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:

Country of Origin: Latvia

	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	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**
MIC	**N of resistant isolates**	**12**	**0**	**12**	**12**	**2**	**3**	**1**	**5**	**0**	**3**	**12**	**5**	**0**	**8**
<=0.015							6								
<=0.03										11					
0.03							3								
0.064										1					
<=0.25														11	2
<=0.5									6						
0.5							2							1	2
<=1								11							
1					3				1						
<=2													5		
2				1	4										
<=4											9				
4			2	1				1					2		
>4				10											
<=8						9									
8			10		3				1						
>8					2		1								
16						1			2						
32						1			1						
>32									1						8
64						1							2		
>64		12											3		
128											2				
>128											1				
>1024												12			

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from pig - 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:

Country of Origin: Germany

	AM substance	Cefepime	Cefotaxim	Cefotaxime + Clavulanic acid	Cefoxitin	Ceftazidim	Ceftazidime + Clavulanic acid	Ertapenem	Imipenem	Meropenem	Temocillin
	Cefotaxime synergy test	**Not Available**	**Not Available**	**Positive/Present**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
	Ceftazidime synergy test	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Not Available**	**Positive/Present**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
	ECOFF	**0.125**	**0.25**	**0.25**	**8**	**0.5**	**0.5**	**0.06**	**0.5**	**0.125**	**32**
	Lowest limit	**0.064**	**0.25**	**0.064**	**0.5**	**0.25**	**0.12**	**0.015**	**0.12**	**0.03**	**0.5**
	Highest limit	**32**	**64**	**64**	**64**	**128**	**128**	**2**	**16**	**16**	**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		
2						1					
4		1			1						
8											1
16			1								

Table Antimicrobial susceptibility testing of Escherichia coli, non-pathogenic, unspecified in Meat from pig - 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:

Country of Origin: Germany

	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**	**1**	**0**	**1**	**0**	**1**	**1**	**1**	**0**	**1**
<=0.03										1					
0.25							1								
0.5														1	
<=1								1							
2					1										
4			1												
>4				1											
<=8						1									
8									1						
>32															1
>64		1											1		
128											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	16-Nov-2018
Animal Population	26-Jul-2018
Disease Status	26-Jul-2018
Food Borne Outbreaks	26-Jul-2018
Prevalence	26-Jul-2018

Table of contents

1. Institutions and Laboratories involved in zoonoses monitoring and reporting

Food and Veterinary Service (FVS) - The FVS is a state administrative institution subordinated to the Ministry of Agriculture. The FVS ensures unified state surveillance and control over the whole food chain including feed, animals and food. The FVS provides veterinary and food surveillance data.

Scientific Institute of Food Safety, Animal Health and Environment „BIOR" - the BIOR ensures all required planned and operational laboratory testing in the frame of state food and veterinary surveillance. Additionally, BIOR represents the National Reference Laboratory according to animal health tasks. All laboratory investigations related to the surveillance of the food chain and animal health.

The Centre for Disease Prevention and Control (CDPC) of Latvia - CDPC of Latvia was established on 1st April 2012 by Cabinet of Ministers of Latvia. Centre is supervised by Ministry of Health. CDPC of Latvia is Institution aimed at strengthening Latvia's public health system, preventing diseases, including infectious and rare diseases. The CDPC provides data on foodborne outbreaks and human cases of zoonotic infections.

2. Animal population

1. Sources of information and the date(s) (months, years) the information relates to

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

2. Definitions used for different types of animals, herds, flocks and holdings as well as the production types covered

Animals - cattle, pigs, sheep, goats, horses, rabbits, swamp beaver, fur animals, poultry, bee gardens, fishponds, hatcheries of aquatic animals, wild animals and birds, which are kept in a holding.

Herd - an agricultural animal or group of animals belonging to one owner.

Holding - shall mean separate confined area in which animals are kept regularly or temporary.

Poultry - shall mean fowl, turkeys, guinea fowl, ducks, geese, quails, pigeons, pheasants, partridges, ratites and etc. birds reared or kept in captivity for breeding, the production of meat or eggs for consumption, or for re-stocking supplies of game.

Day-old chicks - poultry less than 72 hours old, not yet fed; except muscovy ducks (Cairina moschata) or their crosses may be fed and ratites (Ratitae) less than 5 days old, not yet fed.

Commercial poultry - poultry 72 hours old or more, reared for the production and sale for trade or to companies of meat and/or eggs for consumption, or for restocking supplies of game.

Poultry flock - all poultry of the same health status kept on the same premises or in the same enclosure

and constituting a single epidemiological unit. In housed poultry this will include all birds sharing the same airspace.

3. Geographical distribution and size distribution of the herds, flocks and holdings[(b)]

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

3. General evaluation: SALMONELLOSIS

1. History of the disease and/or infection in the country

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

2. Evaluation of status, trends and relevance as a source for humans

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

4. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* spp. in broiler meat and products thereof

1. Monitoring/Surveillance/Control programmes system
2. Measures in place

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

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

Frequency of the sampling - sampling distributed evenly throughout the year.

Methods of sampling (description of sampling techniques) - method according to regulation 2073/2005.

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

Diagnostic/analytical methods used - LVS EN ISO 6579:2003

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

3. Notification system in place to the national competent authority

Yes

5. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* spp. in pig meat and products thereof

1. Monitoring/Surveillance/Control programmes system
2. Measures in place

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

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

Frequency of the sampling - sampling distributed evenly throughout the year.

Type of specimen taken **-** at slaughterhouse and cutting plant **- s**urface of carcass**, a**t retail **- m**inced meat, meat preparations**.**

Methods of sampling (description of sampling techniques) - method according to regulation 2073/2005.

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

Diagnostic/analytical methods used - LVS EN ISO 6579:2003

Measures in case of the positive findings or single cases - The inspector immediately has to perform an inspection at the slaughterhouse, processing plant or at the store. He decides what to do with the rest of the batch, if there are still products left, and collects all necessary documents to clarify the origin of the

product. The inspector also decides on the actions that have to be taken in the company, like asking for HACCP system improvements etc. Disinfection has to be carried out at all places where the infected product had contact with.

3. Notification system in place to the national competent authority

Yes

6. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* spp. in bovine meat and products thereof

1. Monitoring/Surveillance/Control programmes system
2. Measures in place

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

Frequency of the sampling - sampling distributed evenly throughout the year.

Type of specimen taken **-** at retail - meat preparations/meat products.

Methods of sampling (description of sampling techniques) - method according to regulation 2073/2005.

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

Diagnostic/analytical methods used - LVS EN ISO 6579:2003

3. Notification system in place to the national competent authority

Yes

7. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* spp. in eggs and egg products

1. Monitoring/Surveillance/Control programmes system
2. Measures in place

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

Frequency of the sampling - raw material for egg products (at production plant), sampling distributed evenly throughout the year.

Type of specimen taken - raw material for egg products (at production plant), mixture of yolk and white.

Methods of sampling (description of sampling techniques) - raw material for egg products (at production plant), method according to Regulation No 2073/2005.

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

Diagnostic/analytical methods used **-** LVS EN ISO 6579:2003

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

3. Notification system in place to the national competent authority

Yes

8. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* spp. in *Gallus Gallus* - breeding flocks

1. Monitoring/Surveillance/Control programmes system
2. Measures in place

Testing is carried out according to the sampling requirements of the:
1)Regulation (EC) 2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of salmonella and other specified food-borne zoonotic agents;
2)Commission Regulation (EU) No 200/2010 of 10 March 2010 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards a Union target for the reduction of the prevalence of Salmonella serotypes in adult breeding flocks of Gallus gallus

1. Samples in every parent breeding flocks of Gallus gallus are taken:
1.1. for day-old chicks:
-rinses from the internal surfaces of the container in which the chicks have been transported to the establishment;
-materials from chicks that have died during transportation;
1.2. four-week old birds: pooled faecal samples;
1.3. birds two weeks before starting of the laying cycle: pooled faecal samples.

2. Samples in every adult breeding flocks of Gallus gallus are taken every third week:
2.1. in free-access flocks:
-two pooled faecal samples from each building where birds are kept;
or
-five pairs of boots/"socks".
2.2. in cage breeding flocks, depending on how faeces are collected:
-two pooled faecal samples from dropping belts;
or
-twp pooled faecal samples from scrapers;
or

-two pooled faecal samples from deep pits.
2.3. These samples are also taken from every breeding flocks of Gallus gallus with less than 250 birds.
2.4. The official samples mentioned in 2. are taken three times from every adult breeding flocks of Gallus gallus by a FVS State veterinary inspector:
2.4.1. within four weeks following the start of laying cycle;
2.4.2. eight weeks before the end of the laying cycle;
2.4.3. at any time during the laying cycle, but not close to the samples mentioned in 2.4.1. and 2.4.2.

3. Sampling at the hatchery:
3.1. one composite sample of visibly soiled hatcher basket liners taken at random from five separate hatcher baskets or locations in the hatcher to reach a total sampling surface of at least 1 m2; if the hatching eggs from a breeding flock occupy more than one hatcher, then such a composite sample shall taken from each hatcher up to a maximum of five; or
3.2. one sample taken with one or several moistened fabric swab(s) of at least 900 cm2 surface area in total, taken immediately after the removal of the chickens from the whole surface area of the bottom of at least a total of five hatcher baskets, or from fluff from five places, including on the floor, in each hatcher up
to a maximum of five with hatched eggs from the flock, ensuring that at least one sample per flock from which eggs are derived, is taken; or
3.3. 10g of broken eggshells taken from a total of 25 separate hatcher baskets, namely 250g in the initial sample, in up to five hatchers with hatched eggs from the flock, crushed, mixed and sub-sampled to from a 25g subsample for testing.
3.4. every 16 weeks, the sampling provided in 3.1. or 3.2. or 3.3 must be replaced by official sampling.

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

Vaccination policy - preventive vaccination against zoonotic salmonellosis agents is permitted using inactivated vaccines or live marked vaccines.

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

3. Notification system in place to the national competent authority

Yes

4. Additional information

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

control of Salmonella in poultry.

9. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* spp. in *Gallus Gallus* – flocks of laying hens

1. Monitoring/Surveillance/Control programmes system
2. Measures in place

Testing is carried out according to the sampling requirements of the:
1)Regulation (EC) No 2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of salmonella and other specified food-borne zoonotic agents;
2)Commission Regulation (EU) No 517/2011 of 25 May 2011 implementing Regulation (EC) No 2160/2003 of the European Parliament and of the Council as regards a Union target for the reduction of the prevalence of certain Salmonella serotypes in laying hens of Gallus gallus and amending Regulation (EC) No 2160/2003 and Commission Regulation (EU) No 200/2010
3)Regulation of Cabinet of Ministers No 741, 6 November, 2007 "Order of eradication of salmonella and other food-borne zoonotic agents in poultry flocks which are direct suppliers of small quantities to final consumer".
1.Samples of laying hen flocks are taken:
1.1. for day-old chicks:
-rinses from the internal surfaces of the container in which the chicks have been transported to the establishment;
-materials from chicks that have died during transportation;
1.2. pullets two weeks before the start of the laying cycle: pooled faecal samples.
2. Samples from adult laying hens are taken every fifteen weeks.
2.1.in cage flocks - two pooled faecal samples from each house where birds are kept;
2.2.in barn or free range flocks - two pairs of boot swabs or socks from each house where birds are kept;
3. The official samples mentioned in point 2 and dust sample are taken from adult laying hen flocks by FVS State veterinary inspector. If there is not sufficient dust, an additional sample of pooled faeces or an additional pair of boot swabs or socks shall be taken:
3.1.in one flock per year per holding;
3.2.at the age of 24+/-2 weeks in laying flocks housed in buildings where salmonella was detected in in the preceding flock;
3.3.in any case of suspicion of Salmonella Enteritidis or Salmonella Typhimurium infection, as aresult of the epidemiological investigation of food-borne outbreaks in accordance with Article 8 of Directive 2003/99/EC of the European Parliament and of the Council;
3.4.in all other laying flocks on the holding in case Salmonella Enteritidis or Salmonella Typhimurium are detected in one laying flock on the holding;
3.5.in cases where the Food and veterinary service considers it appropriate;
3.6.a sampling carried out by State veterinary inspector may replace one sampling at the initiative of the operator.

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

Vaccination policy - preventive vaccination against zoonotic salmonellosis agents is permitted using inactivated vaccines or live marked vaccines.

Measures in case of the positive findings:
-Trade restrictions on the animals and products thereof are applied to the infected flocks.

-Live animals from the infected flock are not allowed to leave the holding except for slaughter.
-Meat of the positive flock is heat treated according to the Community legislation on food hygiene.
-Table eggs are not allowed to leave the holding except for further processing at an establishment producing egg products.
-The premises of the infected flock are cleaned and disinfected. Restocking is allowed after an official environmental sampling.
- If Salmonella spp. are detected in a laying hen flock, all other flocks in the same holding are officially sampled at the earliest convenience.
-Epidemiological investigations are carried out to clarify the origin of the Salmonella infection.

3. Notification system in place to the national competent authority

Yes

4. Additional information

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

10. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* spp. in *Gallus Gallus* – flocks of broilers

1. Monitoring/Surveillance/Control programmes system

2. Measures in place

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

Every flock is sampled within three weeks prior to slaughter.

Type of specimen taken - socks/boot swabs.

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

Measures in case of the positive findings:

Broiler flocks: At slaughter (flock based approach):
-Live animals from infected flock are not allowed to leave the holding except for slaughter.
-The positive flock is slaughtered at the end of the working day or on a separate line. The slaughterhouse

is thoroughly cleaned and disinfected afterwards.
-The premises of the infected flock are cleaned and disinfected.

3. Notification system in place to the national competent authority

Yes

4. Additional information

Other preventive measures than vaccination in place:

- Bio-security measures are applied at the holdings.

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

11. Description of Monitoring/Surveillance/Control programmes system: *Salmonella* spp. in other poultry flocks than *Gallus Gallus*

1. Monitoring/Surveillance/Control programmes system

2. Measures in place

Sampling strategy

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

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

Measures in case of the positive findings:
-Official trade restrictions on poultry and products thereof are applied to the infected flock.
-Live poultry from the infected flock is not allowed to leave the holding except for slaughter.
-Meat of the positive flock has to be heat treated according to the Community legislation on food hygiene.
-Table eggs are not allowed to leave the holding except for further processing in an establishment producing egg products.
-The premises of the infected flock are cleaned and disinfected. Restocking is allowed after an official

environmental sampling.
-Epidemiological investigations are carried out to clarify the origin of the Salmonella infection.

3. Notification system in place to the national competent authority

Yes

4. Additional information

Other preventive measures than vaccination in place:

- Bio-security measures are applied at the holdings.

12. General evaluation: TUBERCULOSIS, MYCOBACTERIAL DISEASES

1. History of the disease and/or infection in the country

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

2. Evaluation of status, trends and relevance as a source for humans

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

13. Description of Monitoring/Surveillance/Control programmes system: *Mycobacterium bovis* in bovine animals

1. Monitoring/Surveillance/Control programmes system

2. Measures in place

From 2011 Latvija is officially free bovine tuberculosis country.

Monitoring system
Latvia has a national control programme in place to control tuberculosis in bovines. The programme is based on the Regulation of Cabinet of Ministers Nr. 298, 21 April 2006 "Procedures for prevention and combatting of such infectious diseases as to which both animals and humans are susceptible".

Frequency of the sampling

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

Type of specimen taken
Intradermal tuberculin test.
Tissue from suspect animals in slaughterhouses or animals positive in the intradermal tuberculin test.

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

Diagnostic/analytical methods used
For bacteriological examination of tissue from suspect animals in slaughterhouses or animals positive in the intradermal test: Classical bacteriology - OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2014, Chapter 2.4.7.

Vaccination policy
Vaccination is prohibited.

Measures in case of the positive findings or single cases
According to The Veterinary Medicine Law, animal owner/keeper must immediately notify to veterinarian on animal death, aborts, simultaneous affection of several animals and any case, which arise suspicions that animal is affected by infectious disease.
Measures applied in cases of suspicion or confirmation of a disease is in accordance with Council Directive No 64/432/EEC of 26 June 1964, Council Directive No 78/52/EEC of 13 December 1977 and Council Directive No 77/391/EEC of 17 May 1977, implemented by Regulation of Cabinet of Ministers Nr. 298, 21 April 2006, "Procedures for prevention and combating of such infectious diseases as to which both animals and humans are susceptible.
According to Regulation of Cabinet of Ministers No 298, 21 April 2006 "Procedures for prevention and combating of such infectious diseases as to which both animals and humans are susceptible" if an infection with a zoonotic agent is suspected, this shall be notified by animal owner/keeper, person in charge from laboratory to veterinarian or to regional office of the Food and Veterinary Service. The regional office then informs the Veterinary Surveillance Department of the Food and Veterinary Service. State veterinary inspectors carry out further epidemiological investigation and take appropriate measures to prevent spread of the disease.
Measures to be implemented at suspected holding includes:
1) Movement restrictions on the animals;
2) Live animals are not allowed to leave holding except for slaughter;
3) Listing all suspect animals;
4) Isolating of suspect or positive reacted animals;
5) Restrictions on the trade of milk and milk products;
6) Control of staff, visitors and vehicles;
7) Control of feed and water supply;
8) Control of the removal of manure;
9) Vermin control;
10) Carrying out tests with the bovine tuberculin at the holding.
In case of a positive reaction to the repeated test, the animal shall be intended for slaughter, the viscera thereof shall be removed and submitted for investigation to the authorised laboratory and additionally the following measures shall apply at the holding:
1) Slaughter of positive bovine animals at least within 30 days upon detection;
2) Slaughtering of animals shall be carried out in accordance with Community legislation on food hygiene. Products derived from such animals may be placed on the market for human consumption in accordance

with Community legislation on food hygiene;
3) The premises and surrounding area, as well as vehicles, equipment and other materials that may be contaminated with disease agents are cleaned, washed and disinfected under the supervision of an authorised veterinarian or state veterinary inspector;
4) Bedding and other materials that may be contaminated with disease agents are disinfected under the supervision of an authorised veterinarian or state veterinary inspector; manure are disinfected or subjected to treatment in accordance with Regulation (EC) No 1069/2009 of the European Parliament and
of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal byproducts
Regulation);
5) Other disease eradication measures in the affected holding.
Restrictions are lifted by a State veterinary inspector after the above measures have been taken and all animals over six weeks of age have reacted negatively to at least two consecutive tuberculin tests, the first no less than 60 days and the second no less than four months and no more than 12 months after the removal of the last positive reactor.
Costs of eradication of bovine tuberculosis are compensated according to Regulation of Cabinet of Ministers No 177, 13 March 2005, “Procedure for payment of compensations to owners of animals which have arise due to eradication of epizootic diseases or animal infectious diseases, which are under state supervision”.

Notification system in place
According to The Veterinary Medicine Law, animal owner/keeper must immediately notify to veterinarian on animal death, aborts, simultaneous affection of several animals and any case, which arise suspicions that animal is affected by infectious disease.
According to Regulation of Cabinet of Ministers No 298, 21 April 2006 "Procedures for prevention and combating of such infectious diseases as to which both animals and humans are susceptible" if an infection with a zoonotic agent is suspected, this shall be notified by animal owner/keeper, person in charge from laboratory to veterinarian or to regional office of the Food and Veterinary Service. The regional office then informs the Veterinary Surveillance Department of the Food and Veterinary Service. State veterinary inspectors carry out further epidemiological investigation and take appropriate measures to prevent spread of the disease.
Also the Directive 2003/99/EC is implemented into national law by Regulation of the Cabinet of Ministers Nr. 90, 31 January 2012 "Procedures for surveillance and exchange of information of such infectious diseases as to which both animals and humans are susceptible, and of the antimicrobial resistance of agents"

3. Notification system in place to the national competent authority

Yes

14. Description of Monitoring/Surveillance/Control programmes system: *Mycobacterium* in pigs

1. Monitoring/Surveillance/Control programmes system

2. Measures in place

Sampling strategy
Tissue from suspect animals in slaughterhouses.

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

Type of specimen taken
Tissue from suspect animals in slaughterhouses.
For bacteriological examination of tissue from suspect animals: Classical bacteriology - OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2014.

Case definition
A single animal from which M.bovis or M.avium has been isolated.
Vaccination policy
Vaccination is prohibited.

Notification system in place
According to The Veterinary Medicine Law, animal owner/keeper must immediately notify to veterinarian on animal death, aborts, simultaneous affection of several animals and any case, which arise suspicions that animal is affected by infectious disease.
Also the Directive 2003/99/EC is implemented into national law by Regulation of the Cabinet of Ministers Nr. 90, 31 January 2012 "Procedures for surveillance and exchange of information of such infectious diseases as to which both animals and humans are susceptible, and of the antimicrobial resistance of agents"

3. Notification system in place to the national competent authority[(c)]

Yes

15. General evaluation: BRUCELLOSIS

1. History of the disease and/or infection in the country

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

2. Evaluation of status, trends and relevance as a source for humans

Since 1988, no cases of human brucellosis have been registered.
As Latvia has been free of bovine brucellosis since 1963, and the status of freedom from brucellosis is controlled by the responsible authority, brucellosis is not considered to pose a risk on animal or human health.

16. Description of Monitoring/Surveillance/Control programmes system: *Brucella abortus* in bovine animals

1. Monitoring/Surveillance/Control programmes system

2. Measures in place

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

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

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

Type of specimen taken
Milk/blood samples are taken on the farm.

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

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

Vaccination policy
Vaccination is prohibited.

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

According to Regulation of Cabinet of Ministers No 881, 18 December 2012 "Procedure for prevention and eradication of brucellosis in bovine animals" following measures are taken:
Measures to be implemented at suspected holding includes:
1) Movement restrictions on the animals;
2) Live animals are not allowed to leave holding except for slaughter;
3) Listing all suspect animals;
4) Restrictions on the trade of milk and milk products;
5) Control of staff, visitors and vehicles;

6) Control of feed and water supply;
7) Control of the removal of manure;
8) Vermin control;
9) Sampling of animals for further investigation.
In case of confirmed diagnosis additionally the following measures shall apply at the holding:
1) Slaughter of positive bovine animals at least within 30 days upon detection;
2) Slaughtering of animals shall be carried out in accordance with Community legislation on food hygiene. Products derived from such animals may be placed on the market for human consumption in accordance with Community legislation on food hygiene;
3) The premises and surrounding area, as well as vehicles, equipment and other materials that may be contaminated with disease agents are cleaned, washed and disinfected under the supervision of an authorised veterinarian or state veterinary inspector;
4) Bedding and other materials that may be contaminated with disease agents are disinfected under the supervision of an authorised veterinarian or state veterinary inspector; manure are disinfected or subjected to biothermic treatment;
5) Foetuses, still-born calves, calves which have died from brucellosis is destroyed in accordance with Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation).
6) Other disease eradication measures in the affected holding.
Restrictions are lifted by a State veterinary inspector if all bovine animals present in the herd at the time of the outbreak have been slaughtered, or two serological tests of all bovine animals over 12 months old show negative results (the first test is to be carried out at least 30 days after the removal of the positive animal and the second at least 60 days later) and above listed measures have been taken.

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

Also the Directive 2003/99/EC is implemented into national law by Regulation of the Cabinet of Ministers Nr. 90, 31 January 2012 "Procedures for surveillance and exchange of information of such infectious diseases as to which both animals and humans are susceptible, and of the antimicrobial resistance of agents".

17. Description of Monitoring/Surveillance/Control programmes system: *Brucella melitensis* in goats and sheep

1. Monitoring/Surveillance/Control programmes system

2. Measures in place

Latvia is officialy free country from Brucella melitensis. *Brucella melitensis* has never been detected in Latvia at all.

Monitoring system
In 2017, according to the national control programme, 5% of the total number of goats/sheep older than 6 months were tested on brucellosis. Programme is based on Regulation of Cabinet of Ministers No 988 of 20 December 2011 "Procedures for the prevention and eradication of brucellosis in sheep and goats ".

Type of specimen taken
Blood samples are taken at farm.

Case definition
An animal is considered to be suspected when the individual blood sample is positive. Diagnosis is confirmed by bacteriological detection of *B. melitensis*.

Diagnostic/analytical methods used
Blood serum samples are tested by RBT.

Vaccination policy
Vaccination is prohibited.

3. Notification system in place to the national competent authority

Yes

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

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

18. Description of Monitoring/Surveillance/Control programmes system: *Brucella suis* in pigs

1. Monitoring/Surveillance/Control programmes system

2. Measures in place

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

Frequency of the sampling
All breeding boars that are used for artificial insemination are tested once per year. For the getting of officially free status sows, young sows and breeding boars that are used for breeding in the own herd are tested as follows: sows - once per two years 100% animals, young sows - before insemination 100% animals and breeding boars - are tested once per year. For the maintain of officially free status sows and breeding boars are tested as follows: sows - 10% of previously non tested sows per year, breeding boars - once per year.

Type of specimen taken - blood

Case definition
If the RBT is positive, the animal is tested serologically again. If the second testing (Complement Fixation Test) also reveals positive results, the animal is slaughtered and tissues are submitted for bacteriological examination. If B. suis can be isolated, the animal and the herd, respectively, is considered positive.

Diagnostic/analytical methods used
Rose Bengal Test
Complement Fixation Test
Classical bacteriology (OIE Manual)

Vaccination policy
Vaccination is prohibited.

Measures in case of the positive findings or single cases
According to The Veterinary Medicine Law, animal owner/keeper must immediately notify to veterinarian on animal death, aborts, simultaneous affection of several animals and any case, which arise suspicions that animal is affected by infectious disease.
State veterinary inspectors carry out further epidemiological investigation and take appropriate measures to prevent spread of the disease.
Measures to be implemented at suspected holding includes:
1) Movement restrictions on the animals;
2) Live animals are not allowed to leave holding except for slaughter;
3) Listing of all suspect animals;
4) Control of staff, visitors and vehicles;
5) Control of feed and water supply;
6) Control of the removal of manure;
7) Vermin control;
8) Sampling of animals for further investigation.

In case of confirmed diagnosis additionally the following measures shall apply at the holding:
1) Slaughtering or destroying of serologically positive animals;
2) Slaughtering of serologically negative animals;
3) Slaughtering of animals shall be carried out in accordance with Community legislation on food hygiene. Products derived from such animals may be placed on the market for human consumption in accordance with Community legislation on food hygiene;
4) The premises and surrounding area, as well as vehicles, equipment and other materials that may be contaminated with disease agents are cleaned, washed and disinfected under the supervision of a veterinarian or State veterinary inspector;
5) Bedding and other materials that may be contaminated with disease agents are disinfected under the supervision of a veterinarian or state veterinary inspector; manure are disinfected or subjected to biothermic treatment;
6) Foetuses, still-born piglets are destroyed in accordance with Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation).
7) Other disease eradication measures in the affected holding.
Restrictions are lifted by a State veterinary inspector if all porcine animals present in the herd at the time of the outbreak have been slaughtered or destroyed and final cleaning and desinfection are finished.

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

3. Notification system in place to the national competent authority

Yes

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

Brucellosis in pigs was first detected in Latvia in 1981. From 1981 till 1994 porcine brucellosis were detected in 36 holdings. Since then till 2010, no cases of brucellosis in pigs have been detected. At the

end of 2010 sporadic case of porcine brucellosis was detected in the one holding.

19. General evaluation: TRICHINELLOSIS

1. History of the disease and/or infection in the country

In 2004, the Food and Veterinary Service has elaborated methodological guidelines for the veterinary expertise of pigs, cows, sheep, goats, horses and farmed and wild game at slaughterhouses determining the order and methods for detection and identification of trichinellosis agents. Guidelines are based on the
requirements of Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption and Commission Regulation (EC) No 2075/2005 of 5 December 2005 laying down specific rules on official controls for Trichinella in meat.
All the carcasses of pigs, horses, wild and farmed game are sampled and tested for Trichinella at slaughter. In cases when animals are slaughtered at home or hunted for personal consumption, it is the duty of the owner of the animals or the hunter, respectively, to ensure that meat samples are sent for laboratory testing.

20. General evaluation: ECHINOCOCCOSIS

1. History of the disease and/or infection in the country

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

21. General evaluation: RABIES

1. History of the disease and/or infection in the country

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

2. Evaluation of status, trends and relevance as a source for humans

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

3. Additional information

In Latvia, in certain territories the oral vaccination of red foxes against rabies has been started in 1991. First used oral vaccine against rabies was vaccine was not originally introduced in baits and produced in Russia. This vaccine veterinarians introduced in baits (for instance - in jawl) by themselves. The oral vaccination of foxes and racoon dogs against rabies by vaccine originally introduced in baits has been started in 1998. Vaccination campaigns have been carried out twice per year: during spring and autumn. From 1998 - 2004, vaccine baits were distributed by hands (manual distribution), but since 2005, aerial distribution is used.

22. Description of Monitoring/Surveillance/Control programmes system: Rabies virus in animal

1. Monitoring/Surveillance/Control programmes system

2. Measures in place

In 2017, there were active and passive surveillance programmes in place regarding rabies. In case of suspicion of rabies in a wild animal, pet or productive animal, the owner or finder, respectively, has to report immediately to an authorized veterinarian or the FVS. In dead animals, a partial post mortem inspection is performed and brain material is taken for further investigations. For pets or productive animals under suspicion - see measures. Sampling is also performed in red foxes and racoon dogs to control the uptake of vaccine baits and to determine the antibody titer. These foxes and racoon dogs are hunted and submitted to the laboratory.

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

Case definition
A case that is laboratory confirmed.

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

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

Food and veterinary service (FVS) performs rabies surveillance in Latvia.
Rabies is notifiable disease in Latvia, animal owners must immediately notify to veterinarian on animal death, abortions, simultaneous affection of several animals and any case, which arise suspicions that animal are affected by infectious disease (Law of Veterinary medicine).
All measures are carried out on basis of following documents:
- Law of Veterinary Medicine, 2001
- Regulation of Cabinet of Ministers No 178, 23 February, 2010 “Order of rabies eradication and control”;
- Food and Veterinary Service Instruction Order No 51 (28 March, 2011) “Program on prophylaxis and eradication of Rabies”;
Above mentioned documents determine measures to be taken in situations when rabies case is suspected or confirmed.
Regarding oral vaccination of wildlife, there is Animal Infectious Disease State Surveillance Program, approved annually by CVO, where Chapter on oral vaccination is included. Program defines area to be vaccinated, number of vaccine baits and campaigns per year, as well as efficiency evaluation of vaccination campaigns.
All rabies laboratory diagnostic tests are performed in an accredited laboratory - Institute of Food Safety,

Animal Health and Environment - "BIOR" that is also National Reference laboratory for rabies in Latvia.
In order to evaluate the efficiency of ORV program annually 4 target animals (foxes and raccoon dogs) per 100 km2 of the vaccinated territory are tested for the presence of biomarker tetracycline (bait uptake) and antibody level (seroconversion).

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

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

3. Notification system in place to the national competent authority

Yes

4. Results of investigations and national evaluation of the situation, the trends and sources of infection

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

5. Additional information

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

23. Food-borne Outbreaks

1. System in place for identification, epidemiological investigations and reporting of food-borne outbreaks

Food-borne diseases are notified by clinicians in cases of suspected infectious disease, a change or discharge of diagnosis of an infectious disease, the final diagnosis and outcome of infectious disease and laboratory confirmation of the diagnosis. Epidemiologists of the Centre for Disease Prevention and Control of Latvia (in Latvian - SPKC) receive information from clinicians and perform investigation of the cases (outbreaks), take environmental samples for laboratory investigation, collect, store and analyse the epidemiological data, organize preventive and control measures. SPKC do not collect clinical information.

2. Description of the types of outbreaks covered by the reporting

In 2017, altogether 22 food-borne outbreaks were registered, including 18 household, and 4 general (registered in restaurants and schools).

3. National evaluation of the reported outbreaks in the country

Altogether 122 cases were registered, including hospitalized - 36. Among all outbreaks 59% were caused by Salmonella spp., 13.6% by Campylobacter, 4.5% - by Norwalk virus and as well for Staphylococcal infections, and infections related to causative agents of unknown aetiology.

4. Descriptions of single outbreaks of special interest

In 2017 three outbreaks could be attributed to the strong evidence events, as for one of them the cohort study were maid, while in the second and third cases *S.aureus* was discovered in the home made-bakery products.

5. Control measures or other actions taken to improve the situation

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

24. Institutions and laboratories involved in antimicrobial resistance monitoring and reporting

Food and Veterinary Service (FVS) - The FVS is a state administrative institution subordinated to the Ministry of Agriculture. The FVS ensures unified state surveillance and control over the whole food chain including feed, animals and food. The FVS provides veterinary and food surveillance data.

Scientific Institute of Food Safety, Animal Health and Environment „BIOR" - the BIOR ensures all required planned and operational laboratory testing in the frame of state food and veterinary surveillance. Additionally, BIOR represents the National Reference Laboratory according to animal health tasks. All laboratory investigations related to the surveillance of the food chain and animal health.

25. General Description of Antimicrobial Resistance Monitoring: Non-pathogenic - *E.coli* in fattening pigs

1. General description of sampling design and strategy

Sampling design was performed according to Commission Implementing Decision 2013/652. At the beginning of the year 2015 there were around 150 pig holdings who sent their pigs to the slaughterhouses during the year. The samples were distributed between slaughterhouses according to their capacity. Sampling was carried out in the slaughterhouses, started with the slaughterhouses of largest throughput. As far as possible one pooled caecal sample was taken per fattening pig holding, but due to African swine fever it not always possible, sometimes 2 pooled caecal samples were taken from pig holding. A pooled caecal sample was analysed at the laboratory on the presence of E.coli, ESBL/AmpC and carbapenemase-producing E.coli.

2. Stratification procedure per animal population and food category

Stratification was performed according to the Commission Implementing Decision No 2013/652. The samples were distributed between slaughterhouses according to their capacity.The sampling plan was stratified per slaughterhouse by allocating the number of samples collected per slaughterhouse. Sampling was carried out from February untill December 2017 and samples were evenly distributed per month during this period. Pooled caecal samples were collected from domestic pig holdings only. As far as possible one pooled caecal sample was taken per fattening pig holding, but due to African swine fever it not always possible, sometimes 2 pooled caecal samples were taken from pig holding.

3. Randomisation procedure per animal population and food category

As far as possible - one representative pooled caecal sample per fattening pig holding was taken, but due to African swine fever it not always possible, sometimes 2 pooled caecal samples were taken from pig holding. Sampling was carried out in the slaughterhouses. As far as possible sampling distributed evenly throughout the year.

4. Analytical method used for detection and confirmation

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

5. Laboratory methodology used for detection of antimicrobial resistance

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

26. General Description of Antimicrobial Resistance Monitoring: Non-pathogenic - *E.coli* in fresh pig and bovine meat

1. General description of sampling design and strategy

Sampling design was performed according to Commission Implementing Decision 2013/652.Sampling was carried at retail. In total 149 fresh pig meat and 149 fresh bovine meat samples were taken. The sampling plan was stratified per territorial units of Food and Veterinary service by allocating the number of samples collected per each territorial unit per month. Sampling was carried out from February untill December 2017 and samples more or less were evenly distributed per month during this period. Each sample was analysed on presence of the presumtive ESBL/AmpC E.coli and carbapenemase producing E.coli.

2. Stratification procedure per animal population and food category

Stratification was performed according to Commission Implementing Decision 2013/652. Sampling was carried at retail. In total 149 fresh pig meat and 149 fresh bovine meat samples were taken. The sampling plan was stratified per territorial units of Food and Veterinary service by allocating the number of samples collected per each territorial unit per month. Sampling was carried out from February untill December 2017 and samples more or less were evenly distributed per month during this period.

3. Randomisation procedure per animal population and food category

The sampling plan was stratified per territorial units of Food and Veterinary service by allocating the number of samples collected per each territorial unit per month. Sampling was carried out from February untill December 2017 and samples were evenly distributed per month during this period.

4. Analytical method used for detection and confirmation

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

5. Laboratory methodology used for detection of antimicrobial resistance

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

27. General Description of Antimicrobial Resistance Monitoring: *Salmonella* in carcasses of fattening pigs

1. General description of sampling design and strategy

Sampling design was performed according to Commission Implementing Decision 2013/652 and according to point 2.1.4. of Chapter 2 of Annex I to Regulation (EC) No 2073/2005. Isolates originate from samples that routinely come from Salmonella control programme.

2. Stratification procedure per animal population and food category

According to requirements of Regulation (EC) No 2073/2005.

3. Randomisation procedure per animal population and food category

According to requirements of Regulation (EC) No 2073/2005.

4. Analytical method used for detection and confirmation

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

5. Laboratory methodology used for detection of antimicrobial resistance

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

28. General Description of Antimicrobial Resistance Monitoring: *Salmonella* in carcasses of broilers

1. General description of sampling design and strategy

Sampling design was performed according to Commission Implementing Decision 2013/652 and according to point 2.1.5. of Chapter 2 of Annex I to Regulation (EC) No 2073/2005. Isolates originate from samples that routinely come from Salmonella control programme.

2. Stratification procedure per animal population and food category

According to requirements of Regulation (EC) No 2073/2005.

3. Randomisation procedure per animal population and food category

According to requirements of Regulation (EC) No 2073/2005.

4. Analytical method used for detection and confirmation

According to requirements of Commission Implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.
5. Laboratory methodology used for detection of antimicrobial resistance
According to requirements of Commission Implementing decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.

29. General Description of Antimicrobial Resistance Monitoring: *Salmonella* in laying hens and broilers

1. General description of sampling design and strategy
Sampling design was performed according to Commission Implementing Decision 2013/652 and according to Article 5(1) of Regulation (EC) No 2160/2003. Isolates originate from samples that routinely come from National salmonella control programme.
2. Stratification procedure per animal population and food category
According to requirements of Regulation (EC) No 2160/2003.
3. Randomisation procedure per animal population and food category
According to requirements of Regulation (EC) No 2160/2003.
4. Analytical method used for detection and confirmation
According to requirements of Regulation (EC) No 2160/2003 and of Commission Implementing Decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.
5. Laboratory methodology used for detection of antimicrobial resistance
According to requirements of Commission Implementing Decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.