ZOONOSES MONITORING

Iceland

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 2022

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 Iceland during the year 2022.

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)	712			
	Cattle (bovine animals) - calves (under 1 year) - dairy calves	598	11,689		598
	Cattle (bovine animals) - calves (under 1 year) - for slaughter	610	10,214		610
	Cattle (bovine animals) - dairy cows - adult	526	25,842		526
	Cattle (bovine animals) - dairy cows - young cattle (1-2 years)	503	5,938		503
	Cattle (bovine animals) - meat production animals - suckler cows	157	3,741		157
	Cattle (bovine animals) - unspecified			385	
	Cattle (bovine animals) - young cattle (1-2 years)	688	22,567		688
Gallus gallus (fowl)	Gallus gallus (fowl) - broilers	25	795,808	5,536,578	85
	Gallus gallus (fowl) - laying hens - adult	11	290,557		35
	Gallus gallus (fowl) - laying hens - during rearing period	7	106,836		12
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult	4	63,400	25,468	19
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period	6	52,717		14
	Gallus gallus (fowl) - parent breeding flocks for egg production line - adult	2	8,720		3
	Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period	1	5,092		1
Pigs	Pigs - breeding animals - unspecified - boars	10	42	7	10
	Pigs - breeding animals - unspecified - sows	11	2,958	1,281	11
	Pigs - fattening pigs - unspecified	14	27,015	73,170	14
	Pigs - fattening pigs - unspecified - piglets	10	9,867		10
Small ruminants	Goats	120	1,883	557	120
	Sheep	1,980			
	Sheep - animals over 1 year	1,969	289,128	50,673	1,969
	Sheep - animals under 1 year (lambs)	1,809	67,935	446,164	1,809
Solipeds, domestic	Solipeds, domestic - horses		70,000	8,731	
Turkeys	Turkeys - meat production flocks	4	11,564	52,793	8
	Turkeys - parent breeding flocks - adult	1	896		4
	Turkeys - parent breeding flocks - during rearing period	2	1,780		3

DISEASE STATUS TABLES

TABLE NAME	REGION	Zoonotic Agent	DISEASE STATUS UNIT	Number of herds with status officially free	Number of infected herds	Total number of herds
Bovine brucellosis in countries and regions that do not receive Community co-financing for eradication programme	ISLAND	Brucella		712	0	712

TABLE NAME	REGION	Zoonotic Agent	DISEASE STATUS UNIT	Number of herds with status officially free	Number of infected herds	Total number of herds
Ovine or Caprine brucellosis in countries and regions that do not receive Community co-financing for eradication programme	ISLAND	Brucella		1,980	0	1,980

DISEASE STATUS TABLES

TABLE NAME	REGION	Zoonotic Agent	DISEASE STATUS UNIT	Number of herds with status officially free	Number of infected herds	Total number of herds
Bovine tuberculosis in countries and regions that do not receive Community co-financing for eradication programme	ISLAND	Mycobacterium bovis		712	0	712

PREVALENCE TABLES

Table CAMPYLOBACTER:Campylobacter in animal

Area of sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling Details	Method	Sampling unit	total units tested	total units positive	Zoonoses	N units positive
Not Available	Gallus gallus (fowl) - broilers - before slaughter - Farm - Iceland - animal sample - faeces - Control and eradication programmes - Industry sampling - Objective sampling	N_A	Not Available	herd/flock	680	12	Campylobacter, unspecified sp.	12
	Turkeys - meat production flocks - before slaughter - Farm - Iceland - animal sample - faeces - Control and eradication programmes - Industry sampling - Objective sampling	N_A	Not Available	herd/flock	30	1	Campylobacter, unspecified sp.	1

Table CAMPYLOBACTER:Campylobacter in food

Area of sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Sampling Details	Method	total units tested	total units positive	Zoonoses	N units positive
Not Available	Meat from broilers (Gallus gallus) - carcase - chilled - Slaughterhouse - Iceland - food sample - neck skin - Surveillance - based on Regulation 2073 - Industry sampling - Objective sampling	single (food/feed)	10	Gram	N_A	ISO 10272-2:2017 Campylobacter	748	13	Campylobacter, unspecified sp.	13

Table COXIELLA: in animal

Area of sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Method	total units tested	total units positive	Number of Clinical Affected Herds	Zoonoses	N units positive
Not Available	Cattle (bovine animals) - dairy cows - adult - Farm - Iceland - animal sample - milk - Monitoring - Official sampling - Objective sampling	herd/flock	Enzyme-linked immunosorbent assay (ELISA)	81	0	0	Coxiella burnetii	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	Sampling Details	Method	total units tested	total units positive	Zoonoses	N units positive
Not Available	Bivalve molluscs - Border Control Posts - United States - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	20	Gram	N_A	Not Available	5	0	Escherichia coli	0

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	Sampling Details	total units tested	total units positive	Method	Zoonoses	N units tested	N units positive
Not Available	Fish - Fishery products from fish species associated with a high amount of histidine - not enzyme maturated - Border Control Posts - United Kingdom - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	5	Gram	N_A	9	0	<=100	Histamine	0	0
								>100 TO <=200	Histamine	0	0
								>200	Histamine	0	0

Table LISTERIA: in food

Area of sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Sample weight	Sample weight unit	Sampling Details	total units tested	total units positive	Method	Zoonoses	N units tested	N units positive
Not Available	Fish - smoked - Border Control Posts - United Kingdom - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	N_A	5	5	detection	Listeria monocytogenes	5	5
	Meat from pig - meat products - cooked ham - Border Control Posts - United Kingdom - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	N_A	5	0	detection	Listeria monocytogenes	5	0

Table SALMONELLA:Salmonella in animal

Area of sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Number of Flocks Under Control Programme	Target Verification	Sampling Details	Method	total units tested	total units positive	Zoonoses	Units positive
Not Available	Cattle (bovine animals) - dairy cows - adult - Farm - Iceland - animal sample - milk - Monitoring - Official sampling - Objective sampling	herd/flock		N_A	N_A	Enzyme-linked immunosorbent assay (ELISA)	81	0	Salmonella Dublin	0
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	N_A	Not Available	685	12	Salmonella Agona	10
									Salmonella Infantis	1
									Salmonella Typhimurium, monophasic	1
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock		Y	N_A	Not Available	685	12	Salmonella Agona	10
									Salmonella Infantis	1
									Salmonella Typhimurium, monophasic	1
	Gallus gallus (fowl) - broilers - before slaughter - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Suspect sampling	herd/flock		N_A	N_A	Not Available	2	1	Salmonella Agona	1
	Gallus gallus (fowl) - laying hens - adult - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	From some flocks, feces (animal samples) are taken	Not Available	39	0	Salmonella	0
	Gallus gallus (fowl) - laying hens - adult - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock		Y	From some flocks, feces (animal samples) are taken	Not Available	41	0	Salmonella	0
	Gallus gallus (fowl) - laying hens - adult - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Objective sampling	herd/flock		N_A	From some flocks, feces (animal samples) are taken	Not Available	5	0	Salmonella	0
	Gallus gallus (fowl) - laying hens - day-old chicks - Farm - Iceland - environmental sample - delivery box liner - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	N_A	Not Available	34	0	Salmonella	0
	Gallus gallus (fowl) - laying hens - during rearing period - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	From some flocks, feces (animal samples) are taken	Not Available	24	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	From some flocks, boot swabs and dust samples are taken	Not Available	48	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock		Y	From some flocks, boot swabs and dust samples are taken	Not Available	53	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - adult - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Objective sampling	herd/flock		N_A	From some flocks, boot swabs and dust samples are taken	Not Available	20	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - day-old chicks - Farm - Iceland - animal sample - eggshells - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	N_A	Not Available	15	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for broiler production line - during rearing period - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	N_A	Not Available	25	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	From some flocks, boot swabs and dust samples are taken	Not Available	7	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock		Y	From some flocks, boot swabs and dust samples are taken	Not Available	7	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for egg production line - adult - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Official sampling - Objective sampling	herd/flock		N_A	From some flocks, boot swabs and dust samples are taken	Not Available	2	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for egg production line - day-old chicks - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	N_A	Not Available	1	0	Salmonella	0
	Gallus gallus (fowl) - parent breeding flocks for egg production line - during rearing period - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	N_A	Not Available	2	0	Salmonella	0
	Pigs - fattening pigs - Slaughterhouse - Iceland - animal sample - meat juice - Control and eradication programmes - Official sampling - Objective sampling	slaughter animal batch		N_A	N_A	Indirect ELISA (I-ELISA)	1060	148	Salmonella spp., unspecified	148
	Turkeys - fattening flocks - before slaughter - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Official and industry sampling - Census	herd/flock		Y	N_A	Not Available	29	0	Salmonella	0
	Turkeys - parent breeding flocks - adult - Farm - Iceland - environmental sample - boot swabs and dust - Control and eradication programmes - Official and industry sampling - Census	herd/flock		Y	N_A	Not Available	3	0	Salmonella	0

Area of sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling unit	Number of Flocks Under Control Programme	Target Verification	Sampling Details	Method	total units tested	total units positive	Zoonoses	Units positive
Not Available	Turkeys - parent breeding flocks - day-old chicks - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	N_A	Not Available	2	0	Salmonella	0
	Turkeys - parent breeding flocks - during rearing period - Farm - Iceland - environmental sample - boot swabs - Control and eradication programmes - Industry sampling - Census	herd/flock		N_A	N_A	Not Available	4	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	Sampling Details	Method	total units tested	total units positive	Zoonoses	N units positive
Not Available	Bivalve molluscs - Border Control Posts - United States - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	N_A	Not Available	5	0	Salmonella	0
	Cheeses, made from unspecified milk or other animal milk - Border Control Posts - United Kingdom - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	N_A	Not Available	10	0	Salmonella	0
	Dairy products (excluding cheeses) - milk powder and whey powder - Border Control Posts - United States - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	N_A	Not Available	5	0	Salmonella	0
	Meat from broilers (Gallus gallus) - carcase - chilled - Slaughterhouse - Iceland - food sample - neck skin - Control and eradication programmes - Official sampling - Objective sampling	single (food/feed)	25	Gram	N_A	Not Available	766	2	Salmonella Agona	1
									Salmonella spp., unspecified	1
	Meat from broilers (Gallus gallus) - meat products - Border Control Posts - Thailand - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	N_A	Not Available	15	0	Salmonella	0
	Meat from pig - carcase - Slaughterhouse - Iceland - food sample - carcase swabs - Control and eradication programmes - Official sampling - Objective sampling	single (food/feed)	400	Square centimetre	As all pig slaughterbatches are tested by officials, the FBOs are exempted from the sampling descriped in Regulation (EC) No 2073/2005	Not Available	1615	2	Salmonella Kedougou	2
	Meat from pig - meat preparation - intended to be eaten cooked - Border Control Posts - United Kingdom - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	N_A	Not Available	5	0	Salmonella	0
	Meat from pig - meat products - cooked ham - Border Control Posts - United Kingdom - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	N_A	Not Available	5	0	Salmonella	0
	Meat from pig - meat products - ready-to-eat - Border Control Posts - United Kingdom - Not Available - Surveillance - Official sampling - Suspect sampling	batch (food/feed)	25	Gram	N_A	Not Available	2	0	Salmonella	0
	Meat from turkey - carcase - Slaughterhouse - Iceland - food sample - neck skin - Control and eradication programmes - Official sampling - Objective sampling	single (food/feed)	25	Gram	N_A	Not Available	69	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	Sampling Details	Method	total units tested	total units positive	Zoonoses	N units positive
Not Available	Compound feedingstuffs for fish - Border Control Posts - United Kingdom - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	N_A	Not Available	5	0	Salmonella	0
	Pet food - final product - Border Control Posts - United States - Not Available - Surveillance - Official sampling - Objective sampling	batch (food/feed)	25	Gram	N_A	Not Available	5	0	Salmonella	0

Table TRICHINELLA:Trichinella in animal

Area of sampling	Matrix - Sampling stage - Sampling origin - Sample type - Sampling context - Sampler - Sampling strategy	Sampling Details	Method	Sampling unit	total units tested	total units positive	Zoonoses	N units positive
Not Available	Pigs - fattening pigs - others - raised under controlled housing conditions, not recognised by the competent authorities - Slaughterhouse - Iceland - animal sample - organ/tissue - Monitoring - Official sampling - Census	N_A	Not Available	animal	74530	0	Trichinella	0
	Solipeds, domestic - horses - Slaughterhouse - Iceland - animal sample - organ/tissue - Monitoring - Official sampling - Census	N_A	Not Available	animal	7419	0	Trichinella	0

FOODBORNE OUTBREAKS TABLES

Foodborne Outbreaks: summarized data

when numbers referring to cases, hospitalized people and deaths are reported as unknown, they will be not included in the sum calculation

		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
Norovirus	Unknown						1	47	0	0
	Other processed food products and prepared dishes - pasta/rice salad		1	46	0	0				

Strong Foodborne Outbreaks: detailed data

Causative agent	H	AG	VT	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	Not Available	Not Available	Not Available	FBO-Noro1-2022	General	Other processed food products and prepared dishes - pasta/rice salad	Pasta salad suspected	Descriptive epidemiological evidence	Domestic premises	Domestic premises	Iceland	Infected food handler	Group infection occurred after consumption of food at a christening party (32/50 developed symptoms) and after consumption of leftover pasta salad from the christening party at a workplace the day after (12/12 developed symptoms). At least 46 people have fallen ill (party guests, company staff). It turned out that an intestinal infection plagued the family who prepared the party and those who made the pasta salad got sick on the one hand the day before the salad was made and on the other hand the same day it was made. Four individuals who submitted stool samples were diagnosed with norovirus. It is likely that norovirus was introduced into the salad when it was prepared, although it is not excluded	1	46	0	0

Weak Foodborne Outbreaks: detailed data

Causative agent	H	AG	VT	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	Not Available	Not Available	Not Available	FBO-Noro2-2023	General	Unknown	Meals in trays from a food company that sent to workplaces.	Descriptive epidemiological evidence	Canteen or workplace catering	Unknown	Unknown	Unknown	A total of 47 people are known to have fallen ill following the consumption of meals from the same catering company. The illnesses seem to have all started at a similar time (afternoon and evening the day after consumption), symptoms were almost the same, those who did not eat were not infected and all the samples from sick persons were positive for norovirus (total 4 samples). Therefore, it can be considered probable that noroviruses were found in the food trays of those who fell ill. The salad that came with three of the dishes (a, b and c) in some of the trays was likely infected. This could be consistent with the fact that one of the employees who dispenses lettuce to the trays was infected with norovirus or that the lettuce was partially contaminated during dispensing.	1	47	0	0

ANTIMICROBIAL RESISTANCE TABLES FOR CAMPYLOBACTER

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

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method: Dilution - sensititre

Country Of Origin:Iceland

Sampling Details:N_A

	AM substance	Chloramphenicol	Ciprofloxacin	Ertapenem	Erythromycin	Gentamicin	Tetracycline
	ECOFF	**16**	**0.5**	**0.5**	**4**	**2**	**1**
	Lowest limit	**2**	**0.125**	**0.125**	**1**	**0.25**	**0.5**
	Highest limit	**64**	**32**	**4**	**512**	**16**	**64**
	N of tested isolates	**7**	**7**	**7**	**7**	**7**	**7**
MIC	**N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**
<=0.125			5	5			
<=0.25						5	
0.25			2	2			
<=0.5							7
0.5						2	
<=1					7		
<=2		7					

ANTIMICROBIAL RESISTANCE TABLES FOR SALMONELLA

Table Antimicrobial susceptibility testing of Salmonella Agona 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: AMR MON

Analytical Method: Dilution - sensititre

Country Of Origin:Iceland

Sampling Details:N_A

ESBL Genes	AMPC Genes	CARBA Genes	MIC	AM substance	Amikacin	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin
				ECOFF	**4**	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**
				Lowest limit	**4**	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**
				Highest limit	**128**	**32**	**64**	**4**	**8**	**64**	**8**	**16**
				N of tested isolates	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
				N of resistant isolates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Not Available	Not Available	Not Available	0.03								10	
			<=0.25					10				
			0.5						10			
			<=1			8						10
			2			2						
			<=4		10							
			<=8							9		
			8				2					
			16				8			1		

ESBL Genes	AMPC Genes	CARBA Genes	MIC	AM substance	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
				ECOFF	**2**	**0.125**	**8**	**256**	**8**	**0.5**	**2**
				Lowest limit	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
				Highest limit	**16**	**16**	**64**	**512**	**32**	**8**	**16**
				N of tested isolates	**10**	**10**	**10**	**10**	**10**	**10**	**10**
				N of resistant isolates	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Not Available	Not Available	Not Available	<=0.03			10					
			<=0.25							10	7
			<=0.5		9						
			0.5								2
			1								1
			<=2						9		
			2		1						
			<=4				9				
			4						1		
			8				1				
			64					7			
			128					3			

Table Antimicrobial susceptibility testing of Salmonella Infantis 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: AMR MON

Analytical Method: Dilution - sensititre

Country Of Origin:Iceland

Sampling Details:N_A

ESBL Genes	AMPC Genes	CARBA Genes	MIC	AM substance	Amikacin	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin
				ECOFF	**4**	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**
				Lowest limit	**4**	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**
				Highest limit	**128**	**32**	**64**	**4**	**8**	**64**	**8**	**16**
				N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
				N of resistant isolates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Not Available	Not Available	Not Available	0.064								1	
			<=0.25					1				
			0.5						1			
			<=1			1						1
			<=4		1							
			<=8							1		
			8				1					

ESBL Genes	AMPC Genes	CARBA Genes	AM substance	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
			ECOFF	**2**	**0.125**	**8**	**256**	**8**	**0.5**	**2**
			Lowest limit	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
			Highest limit	**16**	**16**	**64**	**512**	**32**	**8**	**16**
			N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**
			MIC / **N of resistant isolates**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Not Available	Not Available	Not Available	<=0.03		1					
			<=0.25						1	1
			<=0.5	1						
			<=4			1				
			4					1		
			64				1			

Table Antimicrobial susceptibility testing of Salmonella Typhimurium, monophasic 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: AMR MON

Analytical Method: Dilution - sensititre

Country Of Origin:Iceland

Sampling Details:N_A

ESBL Genes	AMPC Genes	CARBA Genes	MIC	AM substance	Amikacin	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin
				ECOFF	**4**	**8**	**16**	**0.5**	**2**	**16**	**0.064**	**2**
				Lowest limit	**4**	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**
				Highest limit	**128**	**32**	**64**	**4**	**8**	**64**	**8**	**16**
				N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
				N of resistant isolates	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
Not Available	Not Available	Not Available	0.03								1	
			<=0.25					1				
			0.5						1			
			<=1									1
			<=4		1							
			<=8							1		
			8				1					
			>32			1						

ESBL Genes	AMPC Genes	CARBA Genes	MIC	AM substance	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
				ECOFF	**2**	**0.125**	**8**	**256**	**8**	**0.5**	**2**
				Lowest limit	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
				Highest limit	**16**	**16**	**64**	**512**	**32**	**8**	**16**
				N of tested isolates	**1**	**1**	**1**	**1**	**1**	**1**	**1**
				N of resistant isolates	**0**	**0**	**0**	**1**	**1**	**0**	**0**
Not Available	Not Available	Not Available	<=0.03			1					
			<=0.25							1	1
			<=0.5		1						
			<=4				1				
			>32						1		
			>512					1			

ANTIMICROBIAL RESISTANCE TABLES FOR ESCHERICHIA COLI

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

Sampling Stage: Slaughterhouse

Sampling Type: animal sample - caecum

Sampling Context: Monitoring

Sampler: Official sampling

Sampling Strategy: Objective sampling

Programme Code: AMR MON

Analytical Method: Dilution - sensititre

Country Of Origin:Iceland

Sampling Details:N_A

ESBL Genes	AMPC Genes	CARBA Genes	MIC	AM substance	Amikacin	Ampicillin	Azithromycin	Cefotaxim	Ceftazidim	Chloramphenicol	Ciprofloxacin	Colistin
				ECOFF	**8**	**8**	**16**	**0.25**	**0.5**	**16**	**0.064**	**2**
				Lowest limit	**4**	**1**	**2**	**0.25**	**0.25**	**8**	**0.015**	**1**
				Highest limit	**128**	**32**	**64**	**4**	**8**	**64**	**8**	**16**
				N of tested isolates	**85**	**85**	**85**	**85**	**85**	**85**	**85**	**85**
				N of resistant isolates	**1**	**12**	**0**	**0**	**0**	**0**	**0**	**0**
Not Available	Not Available	Not Available	<=0.015								33	
			0.03								52	
			<=0.25					85	81			
			0.5						4			
			<=1			3						85
			2			38						
			<=4		84							
			4			31	14					
			<=8							82		
			8			1	53					
			16		1		18			3		
			>32			12						

ESBL Genes	AMPC Genes	CARBA Genes	MIC	AM substance	Gentamicin	Meropenem	Nalidixic acid	Sulfamethoxazole	Tetracycline	Tigecycline	Trimethoprim
				ECOFF	**2**	**0.125**	**8**	**64**	**8**	**0.5**	**2**
				Lowest limit	**0.5**	**0.03**	**4**	**8**	**2**	**0.25**	**0.25**
				Highest limit	**16**	**16**	**64**	**512**	**32**	**8**	**16**
				N of tested isolates	**85**	**85**	**85**	**85**	**85**	**85**	**85**
Not Available	Not Available	Not Available		**N of resistant isolates**	**1**	**0**	**0**	**9**	**9**	**0**	**8**
			<=0.03			85					
			<=0.25							82	49
			<=0.5	56							
			0.5							3	28
			1	25							
			<=2						68		
			2	3							
			<=4				85				
			4						8		
			<=8					33			
			16					32	1		
			>16	1							8
			32					10	3		
			>32						5		
			64					1			
			>512					9			

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

Programme Code	Matrix Detailed	Zoonotic Agent Detailed	Sampling Strategy	Sampling Stage	Sampling Details	Sampling Context	Sampler	Sample Type	Sampling Unit Type	Sample Origin	Comment	Total Units Tested	Total Units Positive
CARBA MON	Gallus gallus (fowl) - broilers	Escherichia coli, non-pathogenic, unspecified	Objective sampling	Slaughterhouse	N_A	Monitoring	Official sampling	animal sample - caecum	herd/flock	Iceland	N_A	150	0
ESBL MON	Gallus gallus (fowl) - broilers	Escherichia coli, non-pathogenic, unspecified	Objective sampling	Slaughterhouse	N_A	Monitoring	Official sampling	animal sample - caecum	herd/flock	Iceland	N_A	153	0

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

Latest Transmission set

Table Name	Last submitted dataset transmission date
Antimicrobial Resistance	25-Jul-2023
Esbl	25-Jul-2023
Animal Population	25-Jul-2023
Disease Status	25-Jul-2023
Food Borne Outbreaks	25-Jul-2023
Prevalence	25-Jul-2023