European Food Safety Authority

ZOONOSES MONITORING

LITHUANIA

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

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

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

IN 2012

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: Lithuania

Reporting Year: 2012

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 Lithuania during the year 2012 .

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

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

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

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

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

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1. ANIMAL POPULATIONS

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

Table Susceptible animal populations

* Only if different than current reporting year

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Cattle (bovine animals)	meat production animals	10138				367545			
	dairy cows and heifers	70599				316427			
	- in total	80737		165381		683972			
Deer	farmed - in total	75				3732			
Ducks	mixed flocks/holdings	119				3654			
	- in total	119				3654			
Gallus gallus (fowl)	breeding flocks, unspecified - in total	71				420100		14	
	laying hens	143				3205200		38	
	broilers	283				7100900		45	
	- in total	497		43091198		1072620		97	
Geese	mixed flocks/holdings	291				5323			
	- in total	291				5323			
Goats	mixed herds	3497				8234			

Table Susceptible animal populations

		Number of herds or flocks		Number of slaughtered animals		Livestock numbers (live animals)		Number of holdings	
Animal species	Category of animals	Data	Year*	Data	Year*	Data	Year*	Data	Year*
Goats	- in total	3497				8234			
Pigs	- in total	7208		551811		514031			
Reindeers	farmed - in total	78				4089			
Sheep	mixed herds	6101				83333			
	- in total	6101				83333			
Solipeds, domestic	horses - in total	7817		2441		15339			
Turkeys	meat production flocks	42				428700		16	
	- in total	42		441205		458700		16	
Wild boars	farmed - in total	35				240			

2. INFORMATION ON SPECIFIC ZOONOSES AND ZOONOTIC AGENTS

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

2.1 SALMONELLOSIS

2.1.1 General evaluation of the national situation

2.1.2 Salmonella in foodstuffs

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from broilers (Gallus gallus) - carcase - chilled - at slaughterhouse - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > neck skin	Domestic	Batch		180	4		
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample	Domestic	Batch		20	3		
Meat from duck - carcase - chilled - at slaughterhouse - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > neck skin	Domestic	Batch		5	0		
Meat from turkey - carcase - chilled - at slaughterhouse - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > neck skin	Domestic	Batch		31	0		

Table Salmonella in poultry meat and products thereof

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Meat from broilers (Gallus gallus) - carcase - chilled - at slaughterhouse - Control and eradication programmes		4
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Control and eradication programmes		3
Meat from duck - carcase - chilled - at slaughterhouse - Control and eradication programmes		
Meat from turkey - carcase - chilled - at slaughterhouse - Control and eradication programmes		

Table Salmonella in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch		19	0		
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Single		7	0		
Milk, cows' - raw milk - intended for direct human consumption - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > milk	Domestic	Batch	500 ml	27	0		
Milk, goats' - raw milk - intended for direct human consumption - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > milk	Domestic	Single	500 ml	5	0		

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Cheeses made from cows' milk - unspecified - made from pasteurised milk - at retail - Control and eradication programmes		
Dairy products (excluding cheeses) - cream - made from pasteurised milk - at retail - Control and eradication programmes		
Milk, cows' - raw milk - intended for direct human consumption - at retail - Control and eradication programmes		

Table Salmonella in milk and dairy products

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Milk, goats' - raw milk - intended for direct human consumption - at retail - Control and eradication programmes		

Table Salmonella in other food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Eggs - table eggs - whole - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch		38	0		
Fish - cooked - at retail - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample	Unknown	Batch	260 g	5	0		
Molluscan shellfish - cooked - frozen - at retail - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample	Imported from outside EU	Batch	400 g	5	0		
Ready-to-eat salads - at retail - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample	Domestic	Batch	340 g	5	0		
Vegetables - pre-cut - ready-to-eat - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch		46	0		

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Eggs - table eggs - whole - at retail - Control and eradication programmes		
Fish - cooked - at retail - Control and eradication programmes		
Molluscan shellfish - cooked - frozen - at retail - Control and eradication programmes		
Ready-to-eat salads - at retail - Control and eradication programmes		
Vegetables - pre-cut - ready-to-eat - at retail - Control and eradication programmes		

Table Salmonella in other food

Table Salmonella in red meat and products thereof

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Meat from bovine animals - carcase - chilled - at slaughterhouse - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > meat	Domestic	Batch		78	0		
Meat from pig - carcase - chilled - at slaughterhouse - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > meat	Domestic	Batch		178	3	1	
Meat from pig - minced meat - intended to be eaten cooked - chilled - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > meat	Domestic	Batch		20	0		
Meat, mixed meat - meat products - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > meat	Domestic	Batch		28	0		

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Meat from bovine animals - carcase - chilled - at slaughterhouse - Control and eradication programmes		
Meat from pig - carcase - chilled - at slaughterhouse - Control and eradication programmes		2
Meat from pig - minced meat - intended to be eaten cooked - chilled - at retail - Control and eradication programmes		
Meat, mixed meat - meat products - at retail - Control and eradication programmes		

Table Salmonella in red meat and products thereof

2.1.3 Salmonella in animals

A. Salmonella spp. in Gallus Gallus - breeding flocks

Monitoring system

Sampling strategy

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

Five pairs of boot swabs:
Boot swabs used shall be sufficiently absorptive to soak up moisture. Tubegauze ‘socks’ are also acceptable.
The surface of the boot swab shall be moistened using appropriate diluent (such as 0,8 % sodium chloride, 0,1 % peptone in sterile deionised water, or sterile water).
Walking around shall be done in a manner which will sample representatively all parts of the sector, including littered and slatted areas when slats are safe to walk on. All separate pens within a house shall be included in the sampling. On completion of sampling in the chosen sector, boot swabs must be removed carefully so as not to dislodge adherent material. The boot swabs may be pooled for analysis into a minimum of two pools.
In addition the sampling may include a sample of birds taken at random from within each house of birds on the farm, normally up to five birds per house, unless the authority deems necessary to sample a higher number of birds. The examination shall consist in a test for research of anti-microbial or of bacterial growth inhibitory effect in samples. A test is considered failed if a positive is found in any of the birds.
In case the presence of relevant salmonella is not detected but anti-microbial or bacterial growth inhibitory effect are, sampling of the flock for relevant salmonella and bacterial growth inhibitory effect shall be repeated until no bacterial growth inhibitory effect is detected, or the breeding flock is destroyed. In the latter case, the breeding flock shall be accounted for as an infected breeding flock for the purpose of the Community target.

Frequency of the sampling

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

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

Official sampling shall be carried out on three occasions during the production cycle:
(a) within four weeks following moving to laying phase or laying unit;
(b) towards the end of the laying phase, not earlier than eight weeks before the end of the production cycle;
I during the production, at any time sufficiently distant from the samples referred to in points (a) and (b).

Methods of sampling (description of sampling techniques)

Breeding flocks: Production period

At least two pairs of boot/sock swabs shall be taken. For free range flocks of broilers, samples shall only be collected in the area inside the house. All boot/sock swabs must be pooled into one sample.
In flocks with less than 100 broilers, where it is not possible to use boot/sock swabs as access to the houses is not possible, they may be replaced by hand drag swabs, where the boot swabs or socks are worn over gloved hands and rubbed over surfaces contaminated with fresh faeces, or if not feasible, by other sampling techniques for faeces fit for the intended purpose.

Before putting on the boot/sock swabs, their surface shall be moistened with maximum recovery diluents (MRD: 0,8 % sodium chloride, 0,1 % peptone in sterile deionizer water), or sterile water or any other diluents. The use of farm water containing antimicrobials or additional disinfectants shall be prohibited. The recommended way to moisten boot swabs shall be to pour the liquid inside before putting them on. Alternatively, boot swabs or socks may be autoclaved with diluents within autoclave bags or jars before use. Diluents may also be applied after boots are put on using a spray or wash bottle.

It shall be ensured that all sections in a house are represented in the sampling in a proportionate way. Each pair should cover about 50 % of the area of the house.

On completion of sampling the boot/sock swabs shall be carefully removed so as not to dislodge adherent material. Boot swabs may be inverted to retain material. They shall be placed in a bag or pot and labeled.

Diagnostic/analytical methods used

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

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

Detection method

The method recommended by the Community Reference Laboratory (CRL) for Salmonella in Bilthoven, the Netherlands, for detection shall be used. This method is described in the current version of draft Annex D of ISO 6579 (2002): ‘Detection of Salmonella spp. in animal faeces and in samples of the primary production stage’. In this method, a semi -solid medium (modified semi-solid Rappaport-Vassiladis medium, MSRV) is used as the single selective enrichment medium.

All official samples are collected and analysed in the National Food and Veterinary Risk Assessment Institute. The National Food and Veterinary Risk Assessment Institute is the reference laboratory of Lithuania. The (there after- NFVRAI) has five accredited regional veterinary laboratories where some business operators can perform testing of samples. Central NFVRAI gets all information about testing of samples from all regional veterinary laboratories.

Vaccination policy

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

According Commission regulation (EC) No. 1177/2006 antimicrobials shall not be used as a specific method to control salmonella in poultry.

Antimicrobials authorized in accordance with Article 5 of Directive 2001/82/EC or Article 3 of Regulation 726/2004/EC may be used in the following exceptional circumstances:

(a) poultry presenting salmonella infection with clinical signs in a way likely to cause undue suffering to the animals; the infected flocks treated with antimicrobials shall still be considered infected with salmonella; appropriate measures shall be taken in breeding flocks to reduce as much as possible the risk of spreading salmonella through the rest of the breeding pyramid;

(b) salvaging of valuable genetic material in breeding flocks in order to establish new salmonella -free flocks, including ‘elite flocks’, flocks from endangered breeds, and flocks kept for research purposes; chicks born from hatching eggs collected from poultry treated with antimicrobials shall be subject to fortnightly sampling during the rearing phase, with a scheme aiming to detect 1 % prevalence of relevant salmonella with a 95 % confidence limit;

(c) authorization given by the territorial SFVS on a case-by-case basis for purposes other than salmonella control in a flock suspect of salmonella infection, in particular following the epidemiological investigation of a food-borne outbreak or the detection of salmonella at the hatchery or at the holding; the flocks shall be considered as infected with salmonella if sampling did not take place in accordance with the provisions in this paragraph.

3. The use of antimicrobials shall be subject to supervision of and reporting to the SFVS. This use shall be based wherever possible on the results of bacteriological sampling and of susceptibility testing.
Live salmonella vaccines shall not be used in the framework of national control programmes where the manufacturer does not provide an appropriate method to distinguish bacteriologically wild-type strains of salmonella from vaccine strains.
Vaccination programmes against Salmonella enteritidis reducing the shedding and contamination of eggs, shall be applied at least during rearing to all laying hens at the latest from 1 January 2008 on in Member States as long as they did not demonstrated a prevalence below 10 % based on the results of the baseline study in accordance with Article 1 of Commission Decision 2004/665/EC or based on the monitoring to follow up the Community target, set in accordance with Article 4(1) of Regulation (EC) No 2160/2003.

Control program/mechanisms

The control program/strategies in place

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

State Food and Veterinary Service of the Republic of Lithuania (SFVS) is the competent authority in the Republic of Lithuania. One of the tasks of the Service is to organize the protection of the animals from infectious diseases and organize the eradication of the infectious diseases. The duties of the State Food and Veterinary Service are carried out in 52 region state food and veterinary services.
The Animal Health and Welfare Department of the State Food and Veterinary Service of the Republic of Lithuania introduces and implements requirements on animal health according EU legislation.
The official veterinarians at the regional State Food and Veterinary Services will carry out the program.
The coordination and organization of feed control is carried out by Lithuanian State Inspection on Veterinary Preparations under State Food and Veterinary Service.
The National Food and Risk Assessment Institute is the reference laboratory for diagnostic for salmonellosis, identification and typization of agents, examination of their resistance. Samples will be tested in the National Food and Risk Assessment Institute and no other laboratories of the Republic of Lithuania will perform analysis of the samples.

Notification system in place

RESULTS AND REPORTING

In the case of positive results for presence of salmonella, particularly, Salmonella enteritidis or Salmonella typhimurium the National Food and Veterinary Risk Assessment Institute must immediately fill in the form of message on cultured pathogen of contagious disease approved by SFVS director Order No. B1-385 of 18 July 2008 "On submission of laboratory test data" and send it to the Centre (department) for Contingencies and Contagious Diseases of SFVS by e-mail svulc@vet.lt, which shall forward it to the Animal Health and Welfare Department of SFVS; in parallel it shall transmit the information to the territorial SFVS of the area where the poultry farm is located.

B. Salmonella spp. in Gallus Gallus - broiler flocks

Monitoring system

Sampling strategy

Broiler flocks

Flocks of broilers are sampled by the competent authority and food business operator.

Frequency of the sampling

Broiler flocks: Before slaughter at farm

Sampling scheme of the food business operators:
-Sampling on the initiative of the food business operator is take place within three weeks before the birds are moved to the slaughterhouse.
Sampling scheme of the regional SFVS:
-Sampling by the regional SFVS is include each year at least one flock of broilers on 10 % of the holdings with more than 5000 birds. It shall be done on a risk basis each time the regional SFVS considers it necessary.

Methods of sampling (description of sampling techniques)

Broiler flocks: Before slaughter at farm

At least two pairs of boot/sock swabs shall be taken. For free range flocks of broilers, samples shall only be collected in the area inside the house. All boot/sock swabs must be pooled into one sample.
In flocks with less than 100 broilers, where it is not possible to use boot/sock swabs as access to the houses is not possible, they may be replaced by hand drag swabs, where the boot swabs or socks are worn over gloved hands and rubbed over surfaces contaminated with fresh faeces, or if not feasible, by other sampling techniques for faeces fit for the intended purpose.
Before putting on the boot/sock swabs, their surface shall be moistened with maximum recovery diluents (MRD: 0,8 % sodium chloride, 0,1 % peptone in sterile deionizer water), or sterile water or any other diluents. The use of farm water containing antimicrobials or additional disinfectants shall be prohibited.
The recommended way to moisten boot swabs shall be to pour the liquid inside before putting them on. Alternatively, boot swabs or socks may be autoclaved with diluents within autoclave bags or jars before use. Diluents may also be applied after boots are put on using a spray or wash bottle.
It shall be ensured that all sections in a house are represented in the sampling in a proportionate way. Each pair should cover about 50 % of the area of the house.
On completion of sampling the boot/sock swabs shall be carefully removed so as not to dislodge adherent material. Boot swabs may be inverted to retain material. They shall be placed in a bag or pot and labeled.

Diagnostic/analytical methods used

Broiler flocks: Before slaughter at farm

The method recommended by the Community Reference Laboratory (CRL) for Salmonella in Bilthoven, the Netherlands, for detection shall be used. This method is described in the current version of draft Annex D of ISO 6579 (2002): ‘Detection of Salmonella spp. in animal faeces and in samples of the primary production stage’. In this method, a semi -solid medium (modified semi-solid Rappaport-Vassiladis medium, MSRV) is used as the single selective enrichment medium.

Vaccination policy

Broiler flocks

Vaccination of animals against contagious diseases is only permitted pursuing the programmes coordinated by the territorial SFVS. Only vaccines registered in the EU may be used. Each year economic entities must supply reports on the numbers of the poultry vaccinated. Live salmonella vaccines for which the manufacturer does not provide an appropriate method to distinguish bacteriological wild-type strains of salmonella from vaccine strains shall not be used in the framework of national control programmes.
The use of antimicrobials shall be subject to supervision and reporting to the territorial SFVS. This use shall be based wherever possible on the results of bacteriological sampling and of susceptibility testing. If in exceptional cases antimicrobials are used this is only done upon permission from the territorial SFVS.

Other preventive measures than vaccination in place

Broiler flocks

The use of antimicrobials shall be subject to supervision of and reporting to the competent authority. It means that authorisation is given by Regional SFVS on a case by case basis for purposes other than salmonella control in a flock suspect of salmonella infection. Official veterinary inspector makes out a prescription for antimicrobials.
Antimicrobials may be used in following exceptional cases:
Salvaging of valuable genetic material, including ‘elite flocks’, flocks from endangered breeds.
Poultry diagnosed as having salmonella infection with clinical signs in a way likely to cause undue suffering to the animals.
The State Inspection of Veterinary Preparations is responsible for authorization and registration of vaccine.
Until now all our poultry keepers have not used live vaccines. They are only using inactivated vaccines.

Measures in case of the positive findings or single cases

Broiler flocks: Before slaughter at farm

When poultry from infected flocks are slaughtered the regional SFVS must decide on further processing of poultry meat. Steps must be taken to reduce the risk of spreading zoonoses as far as possible.
Slaughtering must be carried out separate from other poultry in accordance with Community legislation on food hygiene. Products derived from such birds may be placed on the market for human consumption in accordance with Community legislation on food hygiene. If regional SFVS decide do not use poultry meat from infected flock to use for human consumption, such products must be used or disposed of in accordance with Regulation (EC) No 1069/2009
All economic entities which keep broilers have own control systems in place drawn with respect to risk factor analysis in CCP: control programme for drinking water, programme on collection and decontamination of waste water, on safe collection and disposal of animal by-products and waste, pest control programme, programme on cleaning, washing and disinfection, on personal hygiene control, on personal medical control, on training and continuing education of staff. The persons working on poultry farms may not keep poultry at home.

C. Salmonella spp. in Gallus Gallus - flocks of laying hens

Monitoring system

Sampling strategy

Laying hens flocks

The protection of human health against diseases and infections transmissible directly or indirectly between animals and humans (zoonoses) is of paramount importance. Zoonoses present at the level of primary production must be adequately controlled to ensure that the objectives of this programme are achieved. The collection of data on the occurrence of zoonoses and zoonotic agents in animals, food, feed and humans is necessary to determine the trends and sources of zoonoses.
The aim of the programme is to detect salmonella in laying hens of Gallus gallus flocks in the territory of the Republic of Lithuania, to record the findings and to apply the disease control measures, if required.

Frequency of the sampling

Laying hens: Production period

By food business operators:
1. In cage flocks, 2 × 150 grams of naturally pooled faeces shall be taken from all belts or scrapers in the house after running the manure removal system; however, in the case of step cage houses without scrapers or belts, 2 × 150 grams of mixed fresh faeces must be collected from 60 different places beneath the cages in the dropping pits.
2. In barn or free-range houses, two pairs of boot swabs or socks must be taken, without changing overboots between boot swabs.

By regional SFVS:
1. 1. In cage flocks, 2 × 150 grams of naturally pooled faeces shall be taken from all belts or scrapers in the house after running the manure removal system; however, in the case of step cage houses without scrapers or belts, 2 × 150 grams of mixed fresh faeces must be collected from 60 different places beneath the cages in the dropping pits.
2. In barn or free-range houses, two pairs of boot swabs or socks must be taken, without changing overboots between boot swabs.
3. 250 ml containing at least 100 gram of dust shall be collected from prolific sources of dust throughout the house, or if there is not sufficient dust, an additional sample of 150 grams naturally pooled faeces or an additional pair of boot swabs or socks shall be taken.
Where the presence of Salmonella enteritidis and Salmonella typhimurium is not detected but antimicrobials or bacterial growth inhibitory effect are present, it shall be accounted for as an infected laying hens flock.

Methods of sampling (description of sampling techniques)

Laying hens: Production period

16.2. Monitoring of each laying hen flock by food business operators:
1. Day-old chicks and pullets before moving to rearing flocks;
2. Rearing flocks two weeks before moving to laying phase or laying unit;
3. Layers at 24± 2 weeks of age;
4. Layers every 15 weeks of age.

16.3. Official monitoring by territorial SFVS:
1. One flock per year per on a holding comprising at least 1 000 birds;
2. At the age of 24 ± 2 weeks in laying flocks housed in buildings where salmonella was detected in the preceding flock;
3. In any case of suspicion of Salmonella enteritidis or Salmonella typhimurium infection, as a result 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 (1);
4. In all other laying hens flocks on the holding in case Salmonella enteritidis or Salmonella typhimurium are detected in one laying flock on the holding;
5. In cases where the SFVS considers it appropriate.
A sampling carried out by the regional SFVS may replace one sampling at the initiative of the operator.

Vaccination policy

Laying hens flocks

Vaccination of animals against contagious diseases is only permitted pursuing the programmes coordinated by the territorial SFVS. Only vaccines registered in the EU may be used. Each year economic entities must supply reports on the numbers of the poultry vaccinated. Live salmonella vaccines for which the manufacturer does not provide an appropriate method to distinguish bacteriologically wild-type strains of salmonella from vaccine strains shall not be used in the framework of national control programmes adopted pursuant to Article 6 of Regulation (EC) No 2160/2003.

Measures in case of the positive findings or single cases

Laying hens flocks

From January 1 2010, eggs will not be allowed to be used for direct human consumption (as table eggs) unless they originate from a commercial flock of laying hens subject to this procedure.
Eggs originating from flocks with unknown health status, that are suspected of being infected or from infected flocks may be used for human consumption only if treated in a manner that guarantees the elimination of all salmonella serotypes with public health significance in accordance with Community legislation on food hygiene.
When birds from infected flocks are slaughtered or destroyed, steps must be taken to reduce the risk of spreading zoonoses as far as possible. Slaughtering must be carried out under supervision of SFVS. Products derived from such birds may be placed on the market for human consumption after heat treatment in accordance with Community legislation on food hygiene and, once applicable, part E. If not destined for human consumption, such products must be used or disposed of in accordance with Regulation (EC) No 1069/2009

D. Salmonella spp. in turkey - breeding flocks and meat production flocks

Monitoring system

Frequency of the sampling

Meat production flocks: Before slaughter at farm

Frequency:
• Official samples shall be taken once a year from every tenth flock of each farm comprising at least 500 birds;
• in any case, in all flocks where own-control sampling detected Salmonella Enteritidis or Salmonella Typhimurium;
• if SFVS deems it necessary.

Methods of sampling (description of sampling techniques)

Meat production flocks: Before slaughter at farm

For official sampling two pairs of boot/sock swabs are used. Before putting boots on the surface must be wetted with the water used for drinking birds or with sterile water. A sprayer may be used to wet the boots. Use of water which is used in the farm and which contains antimicrobial or disinfecting substances is prohibited. For official sampling instead of disposable boots disposable socks for the boots may be used. In free-ranging flocks samples shall only be taken from house.
With one pair of boots on walking of about 50 % of the poultry house is needed. It must be ensured that official samples are taken from all the quarters of the poultry house. All the swabs from the boots shall make a pooled sample.
SFVS may decide to change the sampling scheme and to use a single pair of boots (covering 100% of the poultry house area), and one dust sample from different places of the poultry house (about 150 g).
In all the cases where an official sample is taken the SFVS must satisfy itself that antimicrobial substances used in the flocks did not influence the results on salmonella prevalence.
Where the presence of Salmonella enteritidis and Salmonella typhimurium is not detected but antimicrobials or bacterial growth inhibitory effect are detected it shall be considered as an infected flock of turkeys for the purpose of the Community target.

Diagnostic/analytical methods used

Meat production flocks: Before slaughter at farm

The method recommended by the Community Reference Laboratory for Salmonella in Bilthoven, Netherlands, shall be used: the method is a modification of ISO 6579 (2002), where a semi solid medium (MSRV) is used as the single selective enrichment medium. The semi-solid medium should be incubated at 41, 5 +/– 1 °C for 2 × (24 +/– 3) hours.

Vaccination policy

Meat production flocks

Vaccination of animals against contagious diseases is only permitted pursuing the programmes coordinated by the territorial SFVS. Only vaccines registered in the EU may be used. Each year economic entities must supply reports on the numbers of the poultry vaccinated. Live salmonella vaccines for which the manufacturer does not provide an appropriate method to distinguish bacteriologically wild-type strains of salmonella from vaccine strains shall not be used in the framework of national control programmes adopted pursuant to Article 6 of Regulation (EC) No 2160/2003.

Other preventive measures than vaccination in place

Meat production flocks

In accordance with Commission Regulation (EC) No. 1177/2006 antimicrobials shall not be used as a specific method to control salmonella in poultry.
The use of antimicrobials shall be subject to supervision of and reporting to the SFVS. This use shall be based wherever possible on the results of bacteriological sampling and of susceptibility testing.
Live salmonella vaccines shall not be used in the framework of the national control programmes where the manufacturer does not provide an appropriate method to distinguish bacteriologically wild-type strains of salmonella from vaccine strains.

Measures in case of the positive findings or single cases

Territorial SFVS, having detected during official veterinary control Salmonella Enteritidis and Salmonella Typhimurium, in flocks of fattening turkeys shall apply the following measures:
• stop movement of poultry from/to the poultry farm;
• issue a certificate for slaughter of the poultry in the slaughterhouse. The form of the certificate is established in Annex 3 of this Programme. The birds from the fattening turkey flock must be slaughtered for food as soon as possible in accordance with the requirements of Regulation (EC) No. 852/2004, Regulation (EC) No. 853/2004, Regulation (EC) No. 854/2004;
• inform the poultry keeper who intends to slaughter birds of fattening poultry flock for food that before transport of birds to slaughterhouse he must in each case submit the identification information referred to in Appendix I(1) of Annex I to Regulation (EC) No. 2074/2005 (food chain information) to the slaughterhouse at least 24 hours in advance;
• instruct to slaughter, treat, use or dispose of the birds of fattening poultry flock not intended in food in accordance with the provisions of Regulation (EC) No. 1069/2009.

Table Salmonella in breeding flocks of Gallus gallus

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes	71	SFVS	Objective sampling	Official sampling	environmental sample > boot swabs	Domestic	yes	Flock	71	0	

	S. Hadar	S. Infantis	S. Typhimurium	S. Virchow	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Gallus gallus (fowl) - breeding flocks, unspecified - adult - Control and eradication programmes						

Table Salmonella in other birds

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	S. 1,4,[5],12:i:-
Ostriches - farmed - at farm - Monitoring	SFVS	Objective sampling	Official sampling	environmental sample > boot swabs	Domestic	Flock	1	0			

	Salmonella spp., unspecified
Ostriches - farmed - at farm - Monitoring	

Table Salmonella in other poultry

	No of flocks under control programme	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Target Verification	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes	143	SFVS	Objective sampling	Official sampling	environmental sample > boot swabs and dust	Domestic	yes	Flock	24	0	
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes	283	SFVS	Objective sampling	Official sampling	environmental sample > boot swabs	Domestic	yes	Flock	180	0	
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes			Census	Industry sampling			yes				
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes			Census	Official and industry sampling			yes				
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes			Census	Official and industry sampling			yes				
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes	42	SFVS	Objective sampling	Official sampling	environmental sample > boot swabs	Domestic	yes	Flock	24	0	

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Gallus gallus (fowl) - laying hens - adult - at farm - Control and eradication programmes			
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes			
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes			

Table Salmonella in other poultry

	S. Typhimurium	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Gallus gallus (fowl) - broilers - before slaughter - at farm - Control and eradication programmes			
Turkeys - breeding flocks, unspecified - adult - at farm - Control and eradication programmes			
Turkeys - fattening flocks - before slaughter - at farm - Control and eradication programmes			

2.1.4 Salmonella in feedingstuffs

Table Salmonella in compound feedingstuffs

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Compound feedingstuffs for cattle - final product - at feed mill - Surveillance [1)]	2	Objective sampling	Official sampling	feed sample	Unknown	Unknown	25 g	2	0		
Compound feedingstuffs for pigs - final product - at feed mill - Surveillance [2)]	3	Objective sampling	Official sampling	feed sample	Unknown	Unknown	25 g	3	0		
Compound feedingstuffs for poultry (non specified) - final product - at feed mill - Surveillance [3)]	9	Objective sampling	Official sampling	feed sample	Unknown	Unknown	25 g	9	0		

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Compound feedingstuffs for cattle - final product - at feed mill - Surveillance [1)]		
Compound feedingstuffs for pigs - final product - at feed mill - Surveillance [2)]		
Compound feedingstuffs for poultry (non specified) - final product - at feed mill - Surveillance [3)]		

Comments:

[1)] no

Table Salmonella in compound feedingstuffs

Comments:

[2)] no

[3)] no

Footnote:

3 units Compound feedingstuffs (other, we do not have data) Objective sampling, Official sampling, feed sample, sample weight 25 g, Units tested 3, positive for Salmonella 0.

Table Salmonella in other feed matter

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium
Feed material of cereal grain origin - other cereal grain derived - at feed mill - Surveillance [1)]	5	Objective sampling	Official sampling	feed sample	Unknown	Unknown	25 g	5	0		
Feed material of oil seed or fruit origin - rape seed derived - at feed mill - Surveillance [2)]	3	Objective sampling	Official sampling	feed sample	Unknown	Unknown	25 g	3	0		
Feed material of oil seed or fruit origin - soya (bean) derived - at feed mill - Surveillance [3)]	6	Objective sampling	Official sampling	feed sample	Unknown	Unknown	25 g	6	0		

	S. 1,4,[5],12:i:-	Salmonella spp., unspecified
Feed material of cereal grain origin - other cereal grain derived - at feed mill - Surveillance [1)]		
Feed material of oil seed or fruit origin - rape seed derived - at feed mill - Surveillance [2)]		
Feed material of oil seed or fruit origin - soya (bean) derived - at feed mill - Surveillance [3)]		

Comments:

[1)] no

[2)] no

[3)] no

Table Salmonella in other feed matter

2.1.5 Antimicrobial resistance in Salmonella isolates

Table Antimicrobial susceptibility testing of Salmonella in meat from pig

Salmonella	S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		S. Agona		Salmonella spp.	
Isolates out of a monitoring program (yes/no)									yes	
Number of isolates available in the laboratory									2	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin									2	0
Aminoglycosides - Kanamycin									2	0
Aminoglycosides - Streptomycin									2	1
Amphenicols - Chloramphenicol									2	0
Amphenicols - Florfenicol									2	0
Cephalosporins - 3rd generation cephalosporins									2	0
Fluoroquinolones - Ciprofloxacin									2	0
Penicillins - Ampicillin									2	1
Quinolones - Nalidixic acid									2	0
Sulfonamides									2	1
Tetracyclines - Tetracycline									2	1
Trimethoprim									2	0
Fully sensitive									2	1
Resistant to 1 antimicrobial									2	0
Resistant to 2 antimicrobials									2	0
Resistant to 3 antimicrobials									2	0
Resistant to 4 antimicrobials									2	1

Table Antimicrobial susceptibility testing of Salmonella in meat from pig

Salmonella	S. Typhimurium		S. 1,4,[5],12:i:-		S. Derby		S. Agona		Salmonella spp.	
Isolates out of a monitoring program (yes/no)									yes	
Number of isolates available in the laboratory									2	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n
Resistant to >4 antimicrobials									2	0

Table Antimicrobial susceptibility testing of Salmonella in meat from broilers (Gallus gallus)

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Java		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.	
Isolates out of a monitoring program (yes/no)	yes																			
Number of isolates available in the laboratory	2																			
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin	2	0																		
Aminoglycosides - Kanamycin	2	0																		
Aminoglycosides - Streptomycin	2	0																		
Amphenicols - Chloramphenicol	2	0																		
Amphenicols - Florfenicol	2	0																		
Cephalosporins - 3rd generation cephalosporins	2	0																		
Fluoroquinolones - Ciprofloxacin	2	0																		
Penicillins - Ampicillin	2	0																		
Quinolones - Nalidixic acid	2	0																		
Sulfonamides	2	0																		
Tetracyclines - Tetracycline	2	0																		
Trimethoprim	2	0																		
Fully sensitive	2	2																		
Resistant to 1 antimicrobial	2	0																		
Resistant to 2 antimicrobials	2	0																		
Resistant to 3 antimicrobials	2	0																		
Resistant to 4 antimicrobials	2	0																		
Resistant to >4 antimicrobials	2	0																		

Table Antimicrobial susceptibility testing of Salmonella in meat from broilers (Gallus gallus)

Table Antimicrobial susceptibility testing of Salmonella in meat from other poultry species

Salmonella	S. Enteritidis		S. Typhimurium		S. 1,4,[5],12:i:-		S. Agona		S. Virchow		S. Hadar		S. Kentucky		S. Infantis		Salmonella spp.	
Isolates out of a monitoring program (yes/no)	yes																	
Number of isolates available in the laboratory	2																	
Antimicrobials:	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n	N	n
Aminoglycosides - Gentamicin	2	0																
Aminoglycosides - Kanamycin	2	0																

Table Cut-off values for antibiotic resistance testing of Salmonella in Animals

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
Fluoroquinolones	Ciprofloxacin		0.06	
Penicillins	Ampicillin		4	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

Table Cut-off values for antibiotic resistance testing of Salmonella in Feed

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
Fluoroquinolones	Ciprofloxacin		0.06	
Penicillins	Ampicillin		4	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

Table Cut-off values for antibiotic resistance testing of Salmonella in Food

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		32	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.5	
Fluoroquinolones	Ciprofloxacin		0.06	
Penicillins	Ampicillin		4	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

2.2 CAMPYLOBACTERIOSIS

2.2.1 General evaluation of the national situation

2.2.2 Antimicrobial resistance in Campylobacter isolates

Table Cut-off values used for antimicrobial susceptibility testing of C. coli in Animals

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		16	
Tetracyclines	Tetracycline		2	

Table Cut-off values used for antimicrobial susceptibility testing of C. coli in Feed

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		16	
Tetracyclines	Tetracycline		2	

Table Cut-off values used for antimicrobial susceptibility testing of C. coli in Food

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		4	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		16	
Tetracyclines	Tetracycline		2	

Table Cut-off values used for antimicrobial susceptibility testing of C. jejuni in Animals

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		4	
Tetracyclines	Tetracycline		2	

Table Cut-off values used for antimicrobial susceptibility testing of C. jejuni in Feed

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		4	
Tetracyclines	Tetracycline		2	

Table Cut-off values used for antimicrobial susceptibility testing of C. jejuni in Food

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		1	
	Streptomycin		2	
Fluoroquinolones	Ciprofloxacin		1	
Macrolides	Erythromycin		4	
Tetracyclines	Tetracycline		2	

2.3 LISTERIOSIS

2.3.1 General evaluation of the national situation

2.3.2 Listeria in foodstuffs

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch	500 g	35	0	35	
Dairy products (excluding cheeses) - dairy desserts - chilled - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch	200 g	5	0	5	
Dairy products (excluding cheeses) - yoghurt - at retail - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample	Domestic	Batch	125 g	5	0	5	
Milk, cows' - raw milk - intended for direct human consumption - at processing plant - Control and eradication programmes	NFVRAI	Suspect sampling	Official sampling	food sample > milk	Domestic	Single	500 ml	1	0	1	

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - Control and eradication programmes			

Table Listeria monocytogenes in milk and dairy products

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Dairy products (excluding cheeses) - dairy desserts - chilled - at retail - Control and eradication programmes			
Dairy products (excluding cheeses) - yoghurt - at retail - Control and eradication programmes			
Milk, cows' - raw milk - intended for direct human consumption - at processing plant - Control and eradication programmes			

Table Listeria monocytogenes in other foods

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for L. monocytogenes	Units tested with detection method	Listeria monocytogenes presence in x g
Fishery products, unspecified - ready-to-eat - chilled - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch		135	6	135	6
Meat from bovine animals and pig - at retail - Control and eradication programmes [1)]	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch		57	0	57	
Meat from bovine animals and pig - meat products - at retail - Control and eradication programmes [2)]	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch		52	2	52	2
Meat from bovine animals and pig - meat products - at retail - Control and eradication programmes [3)]	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch		57	0	57	
Meat from bovine animals and pig - meat products - at retail - Control and eradication programmes [4)]	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch		91	0	91	
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - chilled - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch	140 g	10	0	10	
Meat from pig - fresh - chilled - at retail - Control and eradication programmes	NFVRAI	Objective sampling	Official sampling	food sample > meat	Domestic	Batch		28	0	28	
Roe - chilled - at retail - Control and eradication programmes [5)]	NFVRAI	Suspect sampling	Official sampling	food sample	Imported from outside EU	Batch	300 g	10	0		

Table Listeria monocytogenes in other foods

	Units tested with enumeration method	> detection limit but <= 100 cfu/g	L. monocytogenes > 100 cfu/g
Fishery products, unspecified - ready-to-eat - chilled - at retail - Control and eradication programmes			
Meat from bovine animals and pig - at retail - Control and eradication programmes [1)]			
Meat from bovine animals and pig - meat products - at retail - Control and eradication programmes [2)]			
Meat from bovine animals and pig - meat products - at retail - Control and eradication programmes [3)]			
Meat from bovine animals and pig - meat products - at retail - Control and eradication programmes [4)]			
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - chilled - at retail - Control and eradication programmes			
Meat from pig - fresh - chilled - at retail - Control and eradication programmes			
Roe - chilled - at retail - Control and eradication programmes [5)]	10		

Comments:

[1)] Hot smoked sausages

[2)] Dried sausages

[3)] Cold smoked sausages

Table Listeria monocytogenes in other foods

Comments:

[4)] Boiled sausages

[5)] Salmonids roe

2.4 E. COLI INFECTIONS

2.4.1 General evaluation of the national situation

2.4.2 Escherichia coli, pathogenic in foodstuffs

Table VT E. coli in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Analytical Method	Sampling unit	Sample weight	Units tested	Total units positive for Verotoxigenic E. coli (VTEC)	Verotoxigenic E. coli (VTEC) - VTEC O157
Meat from bovine animals - carcase - chilled - at slaughterhouse - Control and eradication programmes [1)]	NFVRAI	Objective sampling	Official sampling	food sample > carcase swabs	Domestic	Real-Time PCR	Batch	400 cm2	13		0
Meat from bovine animals and pig - meat products - at retail - Control and eradication programmes [2)]	NFVRAI	Objective sampling	Official sampling	food sample > meat	Domestic	Real-Time PCR	Batch	200 - 600 g	9		0
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Control and eradication programmes [3)]	NFVRAI	Objective sampling	Official sampling	food sample > meat	Domestic	Real-Time PCR	Batch	140 g	10		0

	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat from bovine animals - carcase - chilled - at slaughterhouse - Control and eradication programmes [1)]		

Table VT E. coli in food

	Verotoxigenic E. coli (VTEC) - VTEC non-O157	Verotoxigenic E. coli (VTEC) - VTEC, unspecified
Meat from bovine animals and pig - meat products - at retail - Control and eradication programmes [2)]		
Meat from broilers (Gallus gallus) - meat products - cooked, ready-to-eat - at retail - Control and eradication programmes [3)]		

Comments:

[1)] Sampling method: sponge. Target E. coli O157:H7

[2)] Target E. coli O157:H7

[3)] Target E. coli O157:H7

2.5 TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1 General evaluation of the national situation

2.5.2 Mycobacterium in animals

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

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Routine tuberculin testing		Number of tuberculin tests carried out before the introduction into the herds (Annex A(I)(2)(c) third indent (1) of Directive 64/432/EEC)	Number of animals with suspicious lesions of tuberculosis examined and submitted to histopathological and bacteriological	Number of animals detected positive in bacteriological examination
	Herds	Animals	Number of herds	%	Number of herds	%	Interval between routine tuberculin tests	Number of animals tested			
Lietuva	79242	683972	79242	100	0	0	once a year	635344	31761	81213	0
Total : [1)]	79242	683972	79242	100	0	0	N.A.	635344	31761	81213	0

Comments:

[1)] N.A.

2.6 BRUCELLOSIS

2.6.1 General evaluation of the national situation

2.6.2 Brucella in animals

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

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

Region	Total number of existing		Officially free herds		Infected herds		Surveillance			Investigations of suspect cases				
	Herds	Animals	Number of herds	%	Number of herds	%	Number of herds tested	Number of animals tested	Number of infected herds	Number of animals tested with serological blood tests	Number of animals positive serologically	Number of animals examined microbio logically	Number of animals positive microbio logically	Number of suspended herds
Lietuva	9598	91567	9598	100	0	0	146	1768	0	0	0	0	0	0
Total : [1)]	9598	91567	9598	100	0	0	146	1768	0	0	0	0	0	0

Comments:

[1)] N.A.

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

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

Region	Total number of existing bovine		Officially free herds		Infected herds		Surveillance						Investigations of suspect cases								
							Serological tests			Examination of bulk milk			Information about			Epidemiological investigation					
	Herds	Animals	Number of herds	%	Number of herds	%	Number of bovine herds tested	Number of animals tested	Number of infected herds	Number of bovine herds tested	Number of animals or pools tested	Number of infected herds	Number of notified abortions whatever cause	Number of isolations of Brucella infection	Number of abortions due to Brucella abortus	Number of animals tested with serological blood tests	Number of suspended herds	Number of positive animals		Number of animals examined microbio logically	Number of animals positive microbio logically
																		Sero logically	BST		
Lietuva	79242	683972	79242	100	0	0	73935	373639	0	30980	417566	0	74	0	0	100	0	0	0	0	0
Total : [1)]	79242	683972	79242	100	0	0	73935	373639	0	30980	417566	0	74	0	0	100	0	0	0	0	0

Comments:

[1)] N.A.

2.7 YERSINIOSIS

2.7.1 General evaluation of the national situation

2.7.2 Yersinia in foodstuffs

Table Yersinia in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Yersinia	Y. enterocolitica	Y. pseudotuberculosis
Vegetables - pre-cut - ready-to-eat - at retail - Control and eradication programmes [1)]	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Batch	0,1 - 1 kg	28	0		
Vegetables - pre-cut - ready-to-eat - at retail - Control and eradication programmes [2)]	NFVRAI	Objective sampling	Official sampling	food sample	Intra EU trade	Batch	0,1 - 1 kg	17	0		

	Yersinia spp., unspecified	Y. enterocolitica - O:3	Y. enterocolitica - O:9	Y. enterocolitica - unspecified
Vegetables - pre-cut - ready-to-eat - at retail - Control and eradication programmes [1)]				
Vegetables - pre-cut - ready-to-eat - at retail - Control and eradication programmes [2)]				

Comments:

[1)] Samples: carrot, cabbage, radish, beet, onions

Table Yersinia in food

Comments:

[2)] Samples: cabbage

2.8 TRICHINELLOSIS

2.8.1 General evaluation of the national situation

2.8.2 Trichinella in animals

Table Trichinella in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Units tested	Total units positive for Trichinella	T. spiralis	Trichinella spp., unspecified
Pigs - fattening pigs - not raised under controlled housing conditions - at slaughterhouse - Surveillance	SFVS	Objective sampling	Official and industry sampling	animal sample > organ/tissue	Domestic	Animal	779118	2		2
Solipeds, domestic - horses - at slaughterhouse - Surveillance	SFVS	Objective sampling	Official sampling	animal sample > organ/tissue	Domestic	Animal	1887	0		
Wild boars - wild - Surveillance	SFVS	Objective sampling	Official and industry sampling	animal sample > organ/tissue		Animal	26655	82	9	73
Foxes - Monitoring	SFVS	Objective sampling	Not applicable	animal sample > organ/tissue		Animal	6	2		2
Beavers - wild - at hatchery - Unspecified	SFVS	Objective sampling	Industry sampling	animal sample > organ/tissue		Animal	3	0		
Coypu - at farm - Unspecified	SFVS	Objective sampling	Not applicable	animal sample > organ/tissue	Domestic	Animal	11	0		
Other animals - unspecified - unspecified - Unspecified	SFVS	Selective sampling	Not applicable	animal sample > organ/tissue		Animal	3	0		

Table Trichinella in animals

2.9 ECHINOCOCCOSIS

2.9.1 General evaluation of the national situation

2.10 TOXOPLASMOSIS

2.10.1 General evaluation of the national situation

2.11 RABIES

2.11.1 General evaluation of the national situation

A. Rabies general evaluation

History of the disease and/or infection in the country

Rabies has been compulsory notifiable an enzootic disease in Lithuania for many years. The State Food and Veterinary Service has carried out surveillance and risk assessment of the epidemiological situation of zoonotic diseases and has developed and implemented prevention and control measures as regard rabies in a country.
Rabies has been widespread in the whole territory of the Republic of Lithuania. Rabid wild animals are the main reservoir of this disease in a country and they course sporadic cases of rabies in domestic animals. The main reservoir species of rabies virus and the main animals distributing the disease were red foxes (Vulpes vulpes) and raccoon dogs (Nyctereutes procyonoides).
Rabies is more widespread in wooden areas, but on the other hand wild predators moved as well into areas of human settlements. For instances, foxes and raccoon dogs have become a common sight in urban areas. Under such conditions the number of reports of rabies cases in dogs, cats and foxes in the cities and villages have increased.
In 1994-1997 more rabies cases were occurred in domestic animals than in wildlife. Since 1998 wildlife rabies was prevailing. There were 58,9 % wildlife rabies cases in 1998, 75,3 % - in 1999, 66,5 % - in 2000, 71,6 % - in 2001, 73,1 % - in 2002 and 72,8 % - in 2003, 2004 - 75%, 2005 – 79%, 2006 – 84 %, 2007 – 70.7%, 2008 – 68,12 %

State Food and Veterinary Service of the Republic of Lithuania has prepared a long-term strategy for eradication of rabies in Lithuania. Oral vaccination of wild animals against rabies was already started in Lithuania in 2006.

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

State Food and Veterinary Service of the Republic of Lithuania has prepared a long-term strategy for eradication of rabies in Lithuania. Oral vaccination of wild animals against rabies was already started in Lithuania in 2006. Purchasing of vaccine baits, the distribution of vaccine baits using aircraft and assessment of vaccination effectiveness is carried out according PHARE project No. 2003.0004-341.02.01 „Strengthening of Control on infectious Animal Diseases in Lithuania“.
Rabies is an endemic disease of wild animals in Baltic States. In order to ensure complete eradication of

rabies and to avoid a re-infection from the neighbouring countries, cross-border oral vaccination with Kaliningrad region of Russian Federation and Byelorussia border is needed. Oral vaccination against rabies should be carried out twice a year using aerial distribution of baits. Estimated optimal number per square kilometer is not less than 25 baits. and The aircraft flying lines were separated by 1000 m; only near the border with Belarus flying lines were 500 m. Estimated number of baits for oral vaccination against rabies in the Lithuania is 2600000.
Existing EU legislation allows supporting national programs concerning rabies eradication.
The long-term strategy for eradication of rabies in Lithuania contains the following elements:
- oral vaccination of wild animals should cover all territory of Lithuania

Additional information

Strategy for oral vaccination of wildlife in Lithuania

With respect to oral vaccination of wildlife, the short-term strategy is outlined as follows:
-oral vaccination of wild animals should cover all territory of Lithuania
-oral vaccination of wild animals, especially red foxes and raccoon dogs, with vaccine which should create sufficient immunity
-for the effectiveness of vaccination campaign against rabies, it would be great advantage if all Baltic states and Poland start this campaign at the same time and coordinate their activities;
-Rabies eradication campaign should last not less than no rabies cases will be registered + 2 years;
-compulsory vaccination of dogs and cats;
-implementation of the identification and registration system for dogs and cats;
-control of the population of stray dogs and cats.

2.11.2 Lyssavirus (rabies) in animals

Table Rabies in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Rabies virus (RABV)	EBLV-1
Cattle (bovine animals)		Suspect sampling	Official sampling	animal sample > brain	Domestic	Animal	Lietuva	19	1		
Goats		Suspect sampling	Official sampling	animal sample > brain	Domestic	Animal	Lietuva	2	0		
Pigs		Suspect sampling	Official sampling	animal sample > brain	Domestic	Animal	Lietuva	1	0		
Solipeds, domestic		Suspect sampling	Official sampling	animal sample > brain	Domestic	Animal	Lietuva	2	0		
Dogs - stray dogs		Suspect sampling	Official sampling	animal sample > brain	Domestic	Animal	Lietuva	78	0		
Cats - stray cats		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	74	1		
Foxes - wild - Monitoring		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	198	1		
Raccoon dogs - wild - Monitoring		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	103	2		
Badgers - wild - Unspecified		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	1	0		
Beavers - wild - Unspecified		Suspect sampling	Official sampling	animal sample	Unknown	Animal	Lietuva	2	0		

Table Rabies in animals

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Region	Units tested	Total units positive for Lyssavirus (rabies)	Rabies virus (RABV)	EBLV-1
Ferrets - wild - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	17	0		
Hares - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample	Unknown	Animal	Lietuva	1	0		
Marten - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample	Unknown	Animal	Lietuva	45	0		
Mice - wild - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	1	0		
Minks - wild - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	1	0		
Moose - wild - Unspecified		Suspect sampling	Official sampling	animal sample	Unknown	Animal	Lietuva	1	0		
Muskrats - wild - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	1	0		
Other carnivores - wild - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	11	0		
Other mustelides - wild - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	5	0		
Otter - wild - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	2	0		
Rabbits - farmed - unspecified - Unspecified		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	2	0		
Wild boars - wild - from hunting - Unspecified		Suspect sampling	Official sampling	animal sample > brain	Unknown	Animal	Lietuva	4	0		

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Cattle (bovine animals)		1
Goats		
Pigs		
Solipeds, domestic		
Dogs - stray dogs		
Cats - stray cats		1
Foxes - wild - Monitoring		1
Raccoon dogs - wild - Monitoring		2
Badgers - wild - Unspecified		
Beavers - wild - Unspecified		
Ferrets - wild - unspecified - Unspecified		
Hares - unspecified - Unspecified		
Marten - unspecified - Unspecified		
Mice - wild - unspecified - Unspecified		
Minks - wild - unspecified - Unspecified		
Moose - wild - Unspecified		
Muskrats - wild - unspecified - Unspecified		
Other carnivores - wild - unspecified - Unspecified		

Table Rabies in animals

	EBLV-2	Lyssavirus (unspecified virus)
Other mustelides - wild - unspecified - Unspecified		
Otter - wild - unspecified - Unspecified		
Rabbits - farmed - unspecified - Unspecified		
Wild boars - wild - from hunting - Unspecified		

2.12 STAPHYLOCOCCUS INFECTION

2.12.1 General evaluation of the national situation

2.13 Q-FEVER

2.13.1 General evaluation of the national situation

2.14 WEST NILE VIRUS INFECTIONS

2.14.1 General evaluation of the national situation

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1 ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1 General evaluation of the national situation

3.1.2 Antimicrobial resistance in Escherichia coli, non-pathogenic

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		16	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.25	
Fluoroquinolones	Ciprofloxacin		0.03	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		16	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.25	
Fluoroquinolones	Ciprofloxacin		0.03	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		2	
	Streptomycin		16	
Amphenicols	Chloramphenicol		16	
Cephalosporins	Cefotaxime		0.25	
Fluoroquinolones	Ciprofloxacin		0.03	
Penicillins	Ampicillin		8	
Quinolones	Nalidixic acid		16	
Sulfonamides	Sulfonamides		256	
Tetracyclines	Tetracycline		8	
Trimethoprim	Trimethoprim		2	

3.2 ENTEROCOCCUS, NON-PATHOGENIC

3.2.1 General evaluation of the national situation

3.2.2 Antimicrobial resistance in Enterococcus, non-pathogenic isolates

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		512	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		32	

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

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Tetracyclines	Tetracycline		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		512	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		512	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		32	
Tetracyclines	Tetracycline		2	

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

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		128	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	

Table Cut-off values for antibiotic resistance of E. faecium in Feed

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		128	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	

Table Cut-off values for antibiotic resistance of E. faecium in Food

Test Method Used	Standard methods used for testing

			Concentration (microg/ml)	Zone diameter (mm)
		Standard	Resistant >	Resistant <=
Aminoglycosides	Gentamicin		32	
	Streptomycin		128	
Amphenicols	Chloramphenicol		32	
Glycopeptides (Cyclic peptides, Polypeptides)	Vancomycin		4	
Macrolides	Erythromycin		4	
Oxazolidines	Linezolid		4	
Penicillins	Ampicillin		4	
Streptogramins	Quinupristin/Dalfopristin		1	
Tetracyclines	Tetracycline		2	

4. INFORMATION ON SPECIFIC MICROBIOLOGICAL AGENTS

4.1 ENTEROBACTER SAKAZAKII

4.1.1 General evaluation of the national situation

4.2 HISTAMINE

4.2.1 General evaluation of the national situation

4.3 STAPHYLOCOCCAL ENTEROTOXINS

4.3.1 General evaluation of the national situation

4.3.2 Staphylococcal enterotoxins in foodstuffs

Table Staphylococcal enterotoxins in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Cheeses made from cows' milk - curd - at retail - Surveillance [1)]	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Single	0,25 - 1 kg	12	0
Cheeses made from cows' milk - hard - made from pasteurised milk - at retail - Surveillance [2)]	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Single	300 g	1	0
Cheeses made from cows' milk - soft and semi-soft - made from pasteurised milk - at retail - Surveillance [3)]	NFVRAI	Objective sampling	Official sampling	food sample	Intra EU trade	Single	100 g	5	0

Table Staphylococcal enterotoxins in food

	Source of information	Sampling strategy	Sampler	Sample type	Sample origin	Sampling unit	Sample weight	Units tested	Total units positive for Staphylococcal enterotoxins
Dairy products (excluding cheeses) - cream - made from raw or low heat-treated milk - at retail - Surveillance [4]	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Single	500 g	3	0
Dairy products (excluding cheeses) - fermented dairy products - fermented cream - at retail - Surveillance [5]	NFVRAI	Objective sampling	Official sampling	food sample	Domestic	Single	300 g	5	0
Milk, cows' - raw milk - intended for direct human consumption - at retail - Surveillance	NFVRAI	Objective sampling	Official sampling	food sample > milk	Domestic	Single	500 ml	26	0

Comments:

[1] Curd cheeses

[2] Fermented cheese

[3] Fermented cheese with blue moulds

[4] Sample name: sour cream

[5] Samples: curds

5. FOODBORNE

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

A. Foodborne outbreaks

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

According to the Lithuania communicable diseases reporting law, it is mandatory to report food-borne outbreaks. The Centre for Communicable Diseases and AIDS and the territorial State Food and Veterinary Services receives information about food-borne outbreaks from all territorial Public Health Centres. Both institutions receives this information per 2 hours on phone and 12 hours by official letter about epidemiological investigation results. Centre for Communicable Diseases and AIDS produces a national report to the Ministry of Health and media, if food-borne outbreak is a importance for country and is general. Territorial Public Health Centres report information about household outbreaks to the Centre for Communicable Diseases and AIDS twice a month.

Description of the types of outbreaks covered by the reporting:

Possible and verified food-borne outbreaks are reported to National level. According to the directive 2003/99/EC general and household outbreaks are reported by requirements.

National evaluation of the reported outbreaks in the country:

Control measures or other actions taken to improve the situation

State Food and Veterinary Service control companies of Food and food preparing. Centre for Communicable Diseases and AIDS, territorial Public Health institutions carry out of food-borne outbreaks epidemiological surveillance and investigate outbreaks. Responsible authority under the jurisdiction organize outbreaks eliminate measures, provide information to the public about causes of outbreaks and information about communicable diseases prevention.

Table Foodborne Outbreaks: summarised data

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Salmonella - S. Typhimurium	1	2	2	0	0	1
Salmonella - S. Enteritidis	34	104	82	0	5	39
Salmonella - Other serovars	10	32	25	0	0	10
Campylobacter	8	16	13	0	0	8
Listeria - Listeria monocytogenes	0	unknown	unknown	unknown	0	0
Listeria - Other Listeria	0	unknown	unknown	unknown	0	0
Yersinia	0	unknown	unknown	unknown	0	0
Escherichia coli, pathogenic - Verotoxigenic E. coli (VTEC)	0	unknown	unknown	unknown	0	0
Bacillus - B. cereus	0	unknown	unknown	unknown	0	0
Bacillus - Other Bacillus	0	unknown	unknown	unknown	0	0
Staphylococcal enterotoxins	0	unknown	unknown	unknown	0	0
Clostridium - Cl. botulinum	0	unknown	unknown	unknown	0	0
Clostridium - Cl. perfringens	0	unknown	unknown	unknown	0	0

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Clostridium - Other Clostridia	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Brucella	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Shigella	0	unknown	unknown	unknown	0	0
Other Bacterial agents - Other Bacterial agents	0	unknown	unknown	unknown	0	0
Parasites - Trichinella	4	26	14	0	0	4
Parasites - Giardia	0	unknown	unknown	unknown	0	0
Parasites - Cryptosporidium	0	unknown	unknown	unknown	0	0
Parasites - Anisakis	0	unknown	unknown	unknown	0	0
Parasites - Other Parasites	0	unknown	unknown	unknown	0	0
Viruses - Norovirus	0	unknown	unknown	unknown	0	0
Viruses - Hepatitis viruses	0	unknown	unknown	unknown	0	0
Viruses - Other Viruses	0	unknown	unknown	unknown	0	0
Other agents - Histamine	0	unknown	unknown	unknown	0	0
Other agents - Marine biotoxins	0	unknown	unknown	unknown	0	0
Other agents - Other Agents	0	unknown	unknown	unknown	0	0

	Weak evidence or no vehicle outbreaks					
	Number of outbreaks	Human cases	Hospitalized	Deaths	Strong evidence Number of Outbreaks	Total number of outbreaks
Unknown agent	31	105	51	0	0	31

Table Foodborne Outbreaks: detailed data for Salmonella

Please use CTRL for multiple selection fields

S. Enteritidis

	Value
FBO Code	
Number of outbreaks	1
Number of human cases	15
Number of hospitalisations	3
Number of deaths	0
Food vehicle	Buffet meals
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence;Descriptive epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Restaurant/Café/Pub/Bar/Hotel/Catering service
Origin of food vehicle	Unknown
Contributory factors	Cross-contamination
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	
Number of outbreaks	1
Number of human cases	18
Number of hospitalisations	2
Number of deaths	0
Food vehicle	Buffet meals
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence;Descriptive epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Restaurant/Café/Pub/Bar/Hotel/Catering service
Origin of food vehicle	Unknown
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	
Number of outbreaks	1
Number of human cases	16
Number of hospitalisations	10
Number of deaths	0
Food vehicle	Buffet meals
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence;Descriptive epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Restaurant/Café/Pub/Bar/Hotel/Catering service
Origin of food vehicle	Unknown
Contributory factors	Cross-contamination
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	
Number of outbreaks	1
Number of human cases	10
Number of hospitalisations	7
Number of deaths	0
Food vehicle	Other foods
More food vehicle information	elk liver pate
Nature of evidence	Analytical epidemiological evidence;Descriptive epidemiological evidence
Outbreak type	General
Setting	Other setting
Place of origin of problem	Household / domestic kitchen
Origin of food vehicle	Unknown
Contributory factors	Inadequate heat treatment
Mixed Outbreaks (Other Agent)	
Additional information	

S. Enteritidis

	Value
FBO Code	
Number of outbreaks	1
Number of human cases	10
Number of hospitalisations	0
Number of deaths	0
Food vehicle	Buffet meals
More food vehicle information	
Nature of evidence	Analytical epidemiological evidence;Descriptive epidemiological evidence
Outbreak type	General
Setting	Restaurant, Cafe, Pub, Bar, Hotel
Place of origin of problem	Restaurant/Café/Pub/Bar/Hotel/Catering service
Origin of food vehicle	Unknown
Contributory factors	Cross-contamination
Mixed Outbreaks (Other Agent)	
Additional information	