ZOONOSES MONITORING

SPAIN

The Report referred to in Article 5 of Directive 92/117/EEC

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

including information on foodborne outbreaks and antimicrobial resistance in zoonotic agents

IN 2004

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: **Spain**

Reporting Year: **2004**

Institutions and laboratories involved in monitoring:

Laboratory name	Description	Contribution
MINISTERIO DE AGRICULTURA, PESCA Y ALIMENTACIÓN	SUBDIRECCIÓN GENERAL DE SANIDAD ANIMAL	REPORTING OFFICER
AGENCIA ESPAÑOLA DE SEGURIDAD ALIMENTARIA	Subdirección General de Coordinación de Alertas y Programación de Control Oficial	National Reporter
MINISTERIO DE AGRICULTURA, PESCA Y ALIMENTACION	Subdirección General de Ordenación de Explotaciones	National Reporter
MINISTERIO DE AGRICULTURA, PESCA Y ALIMENTACIÓN	Subdirección General de Medios de Producción Ganadera	National Reporter
MINISTERIO DE AGRICULTURA, PESCA Y ALIMENTACIÓN	Laboratorio Central de Veterinaria de Algete	National Reporter
FACULTAD DE VETERINARIA U.C.M.	Departamento de Sanidad Animal	National Reporter

CONSEJERÍAS DE AGRICULTURA Y GANADERÍA DE LAS COMUNIDADES AUTÓNOMAS	Servicios con competencias en Sanidad Animal	National Reporters
FACULTAD DE VETERINARIA U.C.M.	Departamento de Sanidad Animal	National Reporter

PREFACE

This report is submitted to the European Commission in accordance with Article 5 of Council Directive 92/117/EEC[1]. 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 Spain during the year 2004. 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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[1] Council Directive 92/117/ECC of 17 December 1992 concerning measures for protection against specified zoonoses and specified zoonotic agents in animals and products of animal origin in order to prevent outbreaks of foodborne infections and intoxications, OJ L 62, 15.3.1993, p. 38

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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.

A. Information on susceptible animal population

Sources of information:

For holdings the source is REGA (Livestock Holdings National Register)except bovine and swine holdings. In this register the information is on line, so in this report the data is collected at 30/06/2005. REGA began in 2005.
In the next report the numbers of animals will be collected from REGA too.
The bovine holdings is collected from SIMOGAN, the spanih bovine data base, at Dic/31/2004.
The swine holding is collected from SIMOPORC, the data base of swine moviments.
For bovine animals the source is SIMOGAN, the spanish bovine data base.
In the other animal species the source is the 2002 anual estadistics agriculture booK.
The number of slaughtered bovine animals during 2004 are colleted from SIMOGAN.
In birds, goats, pigs and sheeps the number of slaughtered animals is collected from the 2002 annual stadistic agricuture book, and the data is during 2001.

Dates the figures relate to and the content of the figures:

In bovine animals the data is taken at 31/12/2004.
In the case of goats, sheeps and solipeds the data is taken in dicember 2002.

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

In REGA: "holding" means all the places where animals could be, that includes farms, markets, slaughter houses....
REGA is a holding register, it doesn´t includes herds or flocks.
The definitions used for the types of holdings are established in the european or national regulation.
For birds, granparents birs are in selection farms,parents birds are in multiplication farms.
Breeding farms includes selection and multiplication farms.
For cattle,goats and sheeps: meat production holdings includes fattening and mothers farms.

Table 14.1 Susceptible animal populations: number of herds and holdings rearing animals

* Only if different than current reporting year

Animal species	Category of animals	Number of herds or flocks	Year*	Number of holdings	Year*
Cattle (bovine animals)	calves (under 1 year)	0			
	dairy cows and heifers			46297	
	meat production animals			161500	
	mixed herds			7658	
	in total			246862	
Ducks	breeding animals - in total			7	
	grandparent birds			2	
	parent birds			5	
	meat production animals			353	
	in total			490	
Gallus gallus	breeding animals - in total			526	
	parent birds - in total			420	
	grandparent birds for meat production line			53	
	grandparent birds for egg production line			53	
	grandparent birds - in total			106	
	broilers			7955	
	laying hens			3169	
	parent birds for meat production line			268	
	parent birds for egg production line			152	
	breeding animals for egg production line - in total			205	
	breeding animals for meat production line - in total			321	
	in total			12029	
Geese	breeding animals - in total			5	
	grandparent birds			1	
	parent birds			4	
	meat production animals			85	
	in total			178	
Goats	milk goats			9165	
	mixed herds			11910	
	meat production animals			62368	
	in total			84063	
Pigs	sows and gilts			6077	
	fattening pigs			36642	
	breeding animals			90	
	multiplication animals			208	
	mixed herds			24386	
	in total			86572	
Sheep	milk ewes			9715	
	mixed herds			15899	
	meat production animals			113579	
	in total			141984	
Solipeds	horses - in total			48750	
Turkeys	grandparent birds			0	
	parent birds			11	
	meat production animals			661	
	breeding animals - in total			11	
	in total			810	
Farmed deer	in total			69	
rabbits	in total (1)			5499	

(1): rabbits and hares

2005-09-08	Species	Category	number type	Number	Year
	Cattle (bovine animals)	calves (under 1 year)	Number of herds or flocks	454	
2005-09-08	Species	Category	number type	Number	Year
	Cattle (bovine animals)	calves (under 1 year)	Number of herds or flocks	0	

Table 14.2 Susceptible animal populations: number of animals

* Only if different than current reporting year

Animal species	Category of animals	Livestock numbers (live animals)	Year*	Number of slaughtered animals	Year*
Cattle (bovine animals)	calves (under 1 year) (1)	2794750		1532048	
	dairy cows and heifers (2)	1898480		625977	
	meat production animals (3)	4639300		2070552	
	in total (4)	6537780		2794481	
Gallus gallus	broilers			606563500	2001
	laying hens	494144000			
	parent birds for meat production line	4231000			
	in total			632370700	2001
Goats	milk goats	1553826	2002		
	animals over 1 year	2427462	2002	5734	2001
	animals under 1 year	619253	2002	9633	2001
	meat production animals (5)	564292			
	in total	3046716	2002	15368	2001
Pigs	sows and gilts	2615845	2002		
	fattening pigs (6)	9454504	2002	34975225	2001
	in total	23517741	2002	36330845	2001
Sheep	milk ewes	3362554	2002		
	meat production animals	14810953	2002		
	animals over 1 year (7)	19839519	2002	909	2001
	animals under 1 year (lambs)	3973654	2002	19972	2001
	in total	23813173	2002	20881	2001
Solipeds	horses - in total	238096	2002	42828	2001
Turkeys	in total (8)			91199600	2001

(1): Data stated at Dic/31/2004
(2): Data collected at Dic/31/2004. It´s includes only frisone breed animals.
(3): Data collected at Dic/31/2004. It´s excludes all frisone breed animals.
(4): Data includes bovine live animals at Dic/31/2004
(5): Only female goats excliding milk goats
(6): Data includes pigs with 50 Kg or more.
(7): Rams and Ewes
(8): Birds:others than gallus gallus. Turkey is the second production on birds in Spain.

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

A. General evaluation

History of the disease and/or infection in the country

Salmonellosis is the main zoonoses in European Union, also in Spain.
In poultry, after the introducion in 60´s of the american production method, the especific pathology of avian salmonellosis was caused by S. pullorum and S. gallinarum. In the middle of 80´s come up a new infection in breeding flocks for meat production caused by S. enteritidis, and following it, also in laying hens and in feed S. enteritidis was isolated.

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

Nowadays the sources of infection are widespread along the food chain: feed, food(eggs and ovoproducts, meat),animals and humans can be a source of infection.
At animal level, data in breeding flocks 2004 shown a prevalence of zoonotic salmonellas(enteritidis and typhimurium) of 6,6% in all age groups of all production lines (but 0% in egg production line).
At human level, between 1998 and 2002, 1.740 outbreaks associated with egg consume happened, and 358 in 2003.These data indicate that prevalence remains constant and high in Spain, and outbreaks appears mainly in summer, with the highest incidence in summer.
According to Royal Decree 328/2003, laying down the Poultry Health Plan, all veterinarians have to notify to the Competent Authority cases of zoonoses and zoonotic agents.
At human level salmonellosis is a notifiable disease according to Royal Decree 2210/1995, laying down Epidemiological Surveillance National Network.

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

It is very dificult to establish the relevance of data in the different steps of the food chain as sources of infection, because epidemiology of salmonellosis is very complex.
Nevertheless, human cases are mainly linked to eggs and egg derived food consumption.Between 1998 and 2001,3.818 foodborne outbreaks were notified in Spain, and the 38%(1.469)of them were associated with eggs and ovoproducts.The 85,5% of these 1.469 outbreaks were caused by Salmonella.

Recent actions taken to control the zoonoses

Ministery of Fisheries, Food and Agriculture and Ministery of Health of Spain are carrying out a Control Programme of Salmonella in eggs and ovoproducts along the overall food chain, starting with monitoring systems at holdings(National Surveillance Programme).
A baseline study on the prevalence of Salmonella in laying flocks of Gallus gallus is being carried out at the moment.

Table 3.4.1.A Salmonellosis in man - species/serotype distribution

	Cases	Cases Inc	Autochtone cases	Autochtone Inc	Imported cases	Imported Inc	unknown status
Salmonella	7109	0	7109	0	0	0	0
S. Enteritidis	3873		3873				
S. Hadar	13		13				
S. Typhimurium	820		820				
Salmonella spp.	1496		1496				
S. group B	359		359				
S. group C	54		54				
S. group D	321		321				
S. group C1	96		96				
S. group C2	77		77				

Footnote

SIM= MCROBIOLOGICAL INFORMATION SYSTEM

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-09-22	S. Enteritidis	Autochtone cases	3873	3873
	S. Hadar	Autochtone cases	13	13
	S. Typhimurium	Autochtone cases	820	820
	Salmonella spp.	Autochtone cases	1496	1496
	S. group B	Autochtone cases	359	359
	S. group C	Autochtone cases	54	54
	S. group D	Autochtone cases	321	321
	S. group C1	Autochtone cases	96	96
	S. group C2	Autochtone cases	77	77

Table 3.4.1.B Salmonellosis in man - age distribution

Age Distribution	S. Enteritidis			S. Typhimurium			Salmonella spp.		
	All	M	F	All	M	F	All	M	F
<1 year	479	148	229	106	61	45	266	133	129
1 to 4 years	725	387	337	120	56	63	339	182	154
5 to 14 years	507	269	238	233	120	112	165	80	84
15 to 24 years	243	145	92	125	66	58	91	49	42
25 to 44 years	632	305	322	35	20	15	189	94	94
45 to 64 years	413	203	208	70	33	37	132	61	69
65 years and older	406	182	222	67	37	30	137	74	63
Age unknown	468	241	218	64	38	26	177	85	91
Total :	3873	1880	1866	820	431	386	1496	758	726

Footnote

S.I.M.= Microbiologycal information system.
Gender unknow:
S. enteritidis 27 cases
S. typhimurium 3 cases
S. sp 12 cases

Table 3.4.2 Salmonellosis in man - seasonal distribution

Month	S. Enteritidis	S. Typhimurium	Salmonella spp.
	Cases	Cases	Cases
January	243	66	99
February	219	50	69
March	193	40	69
April	257	53	89
May	344	59	115
June	392	74	162
July	386	83	150
August	425	75	128
September	442	73	161
October	395	79	142
November	274	71	99
December	176	56	124
not known	127	41	89
Total :	3873	820	1496

Footnote

four week period. September is the 9th "four week" period.

2.1.3. Salmonella in foodstuffs

Table 3.3.1 Salmonella sp. in meat and meat products

	Source of information	Remarks	Epidemiological unit	Sample weight	Units tested	Units positive	S. Enteritidis	S. Typhimurium	S. Brandenburg	S. Saintpaul	S. Anatum	S. Altona	S. Infantis	S. Rissen	S. Bredeney
Bovine meat															
fresh															
- at slaughter	ABCF		M	25g/>250	71	7	0	0							
- at processing plant	AE		M		28	2									
- at retail	ABCE		M	25g	86										
minced meat															
- at processing plant	ABD	a	M	25g/>250	1361	84	12				1	1		1	
meat products															
non-ready-to-eat															
- at processing plant	ABE		M		63	1									
- at retail	ABCE		M		112										
Pig meat															
fresh															
- at slaughter	AB		M	25g/>250	147	15	15								
- at processing plant	AB	0	M	25 g	81	4								1	
- at retail	ABE		M	25 g	215	8	6								
meat products															
non-ready-to-eat															
- at processing plant	ABE	b	M	25g/>250	483	15	1	1						2	1
- at retail	ABCE		M	25g/>250	411	15	1								

Broiler meat															
fresh															
- at slaughter	ABC	0	M	25 g	151	13	8						1		
- at processing plant	AB		M	25 g	141	3									
- at retail	ABCEF		M	25g/>250	495	48	16								
meat products															
non-ready-to-eat															
- at processing plant	ABE		M	25 g	75	1									
- at retail	ABC		M	25 g	233	7	3								
Other meat															
fresh															
- at slaughter	ABC		M	25 g/>250g	53										
- at processing plant	AB		M		13	1									
- at retail	ABF	3	M	25 g/>250g	121	10		1	1	8					
Other animals or mixed meat															
meat products															
non-ready-to-eat															
- at processing plant	ABE		M/L		330	12	2								
- at retail	AB		M	250 g	179										

Footnote

(A) Compulsory monitoring programmes.
(B) Voluntary monitoring programmes.
(C) Surveys.
(D) Other procedures of sampling.
(E) Laboratory reports.
(F) National Reference Laboratory.
(a)3 in Chilled cow minced meat.

1 in "chistorra".
7 in chilled chicken hamburguer.
6 in raw pork sausage.
(b) 2 in "fuet".

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-10-25	Bovine meat - minced meat - at processing plant	Remarks	3	1
2005-10-25	Bovine meat - minced meat - at processing plant	Remarks	1	a
2005-10-26	Pig meat - fresh - at processing plant	Remarks	1	0
	Broiler meat - fresh - at slaughter	Remarks	2	0
	Pig meat - meat products - non-ready-to-eat - at processing plant	Remarks	4	b
	Pig meat - fresh - at processing plant	S. Rissen		1
	Broiler meat - fresh - at slaughter	S. Infantis		1
	Bovine meat - minced meat - at processing plant	S. Anatum		1
	Bovine meat - minced meat - at processing plant	S. Altona		1
	Bovine meat - minced meat - at processing plant	S. Rissen		1
	Pig meat - meat products - non-ready-to-eat - at processing plant	S. Rissen		2
	Pig meat - meat products - non-ready-to-eat - at processing plant	S. Bredeney		1

Table 3.3.2 Salmonella sp. in other food

	Source of information	Remarks	Epidemiological unit	Sample weight	Units tested	Units positive	S. Enteritidis	S. Typhimurium	S. Infantis	S. Bredeney	S. Hessarek
cow milk											
raw	ABCE		M		1266						
Dairy products											
ready-to-eat	ABCE		M	25 g/250 g	1398	4					
Table eggs											
- at packing centre	ABDE	a	M	25 g	1686	24	13		1		
Egg products	ABE	0	M		476	6	3			1	
Fishery products											
fish	ABCE		M	25 g	477	3					
Cheeses (1)	AB		M	25g	39	11	2	3			
Ice creams (2)	ABC		M	25g/250	706						
Live bivalve molluscs	ABE	b	M/L	25g/350	598	13					1
Prepared food	ABCDE		M	25g/350	3959	30	7				
Ices and desserts	AB		M	25G	328	7	7				
Nut and nut products					2	2					
Foods not specified	ABE		M	25g	783	18					
Vegetables	ABCE		M	25g	189	1					

(1) : Debería ir incluido en productos lácteos .
(2) : Debería ir incluido en productos lácteos.

Footnote

(A) Compulsory monitoring programmes.
(B) Voluntary monitoring programmes.
(C) Surveys
(D) Other procedures of sampling.
(E)Laboratory reports.
(F) National reference Laboratory.
(a) in shell.
(b) cooked.

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-10-06	Cheeses	Source of information		AB
	Cheeses	Epidemiological unit		M
2005-10-26	Cheeses	Sample weight		25g
	Cheeses	Units tested		39
	Cheeses	Units positive		11
	Ice creams	Source of information		ABC
	Ice creams	Epidemiological unit		M
	Ice creams	Sample weight		25g/250g

	Ice creams	Units tested		706
	Cheeses	S. Enteritidis		2
	Cheeses	S. Typhimurium		3
2005-10-26	Live bivalve molluscs	Source of information		ABE
	Live bivalve molluscs	Remarks		b
	Live bivalve molluscs	Epidemiological unit		M/L
	Live bivalve molluscs	Sample weight		25g/350g
	Live bivalve molluscs	Units tested		598
	Live bivalve molluscs	Units positive		13
2005-10-26	Prepared food	Source of information		ABCDE
	Prepared food	Epidemiological unit		M
2005-10-26	Prepared food	Sample weight		25g/350g
	Prepared food	Units tested		3959
	Prepared food	Units positive		30
	Prepared food	S. Enteritidis		7
2005-10-26	Ices and desserts	Source of information		AB
	Ices and desserts	Epidemiological unit		M
	Ices and desserts	Sample weight		25G
	Ices and desserts	Units tested		328
	Ices and desserts	Units positive		7
	Ices and desserts	S. Enteritidis		7
2005-10-26	Nut and nut products	Units tested		2
	Nut and nut products	Units positive		2
2005-10-26	Foods not specified	Source of information		ABE
	Foods not specified	Epidemiological unit		M
	Foods not specified	Sample weight		25g
	Foods not specified	Units tested		783
	Foods not specified	Units positive		18
2005-10-26	Vegetables	Source of information		ABCE
	Vegetables	Epidemiological unit		M
	Vegetables	Sample weight		25g
	Vegetables	Units tested		189
	Vegetables	Units positive		1
2005-10-26	Table eggs - at packing centre	Remarks	1	a
	Egg products	Remarks	2	0
	Table eggs - at packing centre	S. Infantis		1
	Egg products	S. Bredeney		1
	Live bivalve molluscs	S. Hessarek		1

2.1.4. Salmonella in animals

A. Salmonella spp. in Gallus gallus - breeding flocks for egg production and flocks of laying hens

Monitoring system

Sampling strategy

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

Sampling strategy is defined in Annex III of Directive 92/117/EEC, covering all breeding flocks of the country into a national programe for monitoring and control of salmonella in breeding flocks.Test have been carried out by competent authorities of Autonomous Comunities.Samples are taken at flocks.

Frequency of the sampling

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

Every hatch is sampled all of them

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

Every flock is sampled

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

Every 2 weeks

Type of specimen taken

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

Other: Internal linings of the deliveboxesry , dead chicks

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

Faeces

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

Other: Faeces, Dead chicks, Meconium

Laying hens: Rearing period

Neck skin

Methods of sampling (description of sampling techniques)

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

swabs of internal linings of the delivery boxes (10 samples by hatch)
dead chicks

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

use of socks at environmental
samples of 1 gr. at least

Breeding flocks: Production period

use of socks at environmental
samples of faeces of 1 gr. at least
swabs of meconium

Case definition

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

If positive in control, to confirm the disease official samples must be taken:liver, ovaries and intestine of each bird of a set of five animals by premise of the flock.

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

idem

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

idem

Diagnostic/analytical methods used

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

Bacteriological method: ISO 6579:2002 MSRV

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

Bacteriological method: ISO 6579:2002 MSRV

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

Bacteriological method: ISO 6579:2002 MSRV

Vaccination policy

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

voluntary

Laying hens flocks

voluntary (only in rearing period)

Other preventive measures than vaccination in place

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

biosecurity measures

Control program/mechanisms

The control program/strategies in place

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

National control and monitoring programme according to Annex III of Directive 92/117/EEC

Recent actions taken to control the zoonoses

Compulsory health programme for control of Salmonella in all breeding flocks, following criteria of Annex V of Royal Decree 328/2003, laying down the Health Poultry Plan
Official samples must be taken each 8 weeks

Measures in case of the positive findings or single cases

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

According to Annex III of Directive 92/117/EEC and Annex V of Royal Decree 328/2003:
movemment of live birds forbbiden
destruction or treatement of no incubated eggs
sacrifice

Notification system in place

Since 1952, at least (Epizootic Diseases Law)

At the moment by Animal Health Law 8/2003 and Royal Decree 328/2003

Results of the investigation

Sampled flocks: 192
Positive flocks: 5
Prevalence Salmonella spp.: 2,60%
- Salmonella enteritidis: 0%
- Salmonella typhymurium: 0%

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

The prevalence of Salmonella ssp. is very low
The prevalence of zoonotic Sallmonella is 0%
Control and monitoring programmes should be differentiated of the ones for breeding flocks for meat production
Breeding flocks for egg production can be considered as a very low source of infection for humans

B. Salmonella spp. in Gallus gallus - breeding flocks for meat production and broiler flocks

Monitoring system

Sampling strategy

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

Sampling strategy is defined in Annex III of Directive 92/117/EEC, covering all breeding flocks of the country into a national programe for monitoring and control of salmonella in breeding flocks.Test have been carried out by competent authorities of Autonomous Comunities.Samples are taken at flocks.

Frequency of the sampling

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

Every hatch is sampled all of them

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

Every flock is sampled

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

Every 2 weeks

Type of specimen taken

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

Other: Internal linings of the deliveboxesry , dead chicks

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

Faeces

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

Other: Faeces, Dead chicks, Meconium

Methods of sampling (description of sampling techniques)

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

swabs of internal linings of the delivery boxes(10 samples by hatch)
dead chicks

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

use of socks at environmental
samples of 1 gr. at least

Breeding flocks: Production period

use of socks at environmental
samples of 1 gr. at least
swabs of meconium

Case definition

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

If positive in control, to confirm the disease official samples must be taken:liver,ovaries and intestine of each bird of a set of five animals by premise of the flock.

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

idem

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

necessary): Production period

idem

Diagnostic/analytical methods used

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

Bacteriological method: ISO 6579:2002 MSRV

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

Bacteriological method: ISO 6579:2002 MSRV

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

Bacteriological method: ISO 6579:2002 MSRV

Vaccination policy

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

voluntary

Control program/mechanisms

The control program/strategies in place

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

National control and monitoring programme according to Annex III of Directive 92/117/EEC

Recent actions taken to control the zoonoses

Compulsory health programme for control of Salmonella in all breeding flocks, following criteria of Annex V of Royal Decree 328/2003, laying down the Health Poultry Plan
Official samples must be taken each 8 weeks

Measures in case of the positive findings or single cases

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

According to Annex III of Directive 92/117/EEC and Annex V of Royal Decree 328/2003:
movemment of live birds forbbiden
destruction or treatement of no incubated eggs

sacrifice

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

idem

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

idem

Notification system in place

Since 1952, al least(Epizootic Diseases Law).At the moment dy Animal Health Law 8/2003 and Royal decree 328/2003

Results of the investigation

Sampled flocks: 1000
Positive flocks: 104
Prevalence Salmonella spp.: 10,4%
- prevalence S. enteritidis: 6,31%
- prevalence S. typhimurium: 0,1%
Prevalence in production period:
- Salmonella spp.: 24,22%
- Salmonella enteritidis + typhimurium: 14,87%

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

The prevalence of Salmonella ssp. is high
The prevalence of zoonotic Sallmonella is 6,41%, but in production period is higher(14,87%)
Control and monitoring programmes should be differentiated of the ones for breeding flocks for egg production ,in which prevalence is very slow

Table 3.2.1 Salmonella sp. in Poultry breeding flocks (Gallus gallus)

	Source of information	Remarks	Epidemiological unit	Flocks tested	Flocks positive	S. Enteritidis	S. Typhimurium	S. Hadar	S. Virchow	S. Infantis	Salmonella spp.
Gallus gallus											
grandparent breeding flocks for egg production line			flock	5	0						
parent breeding flocks for egg production line			flock	192	5			2		1	2
day-old chicks			hatch	41	1						1
- during production period			flock	96	4			2		1	1
unspecified			flock	14	0						
- during rearing period			flock	41	0						
parent breeding flocks for meat production line			flock	1000	104	63	1	18	3	1	16
day-old chicks			hatch	213	3	2				1	
- during rearing period			flock	260	0						
- during production period			flock	417	101	61	1	18	3		16
parent breeding flocks, unspecified											
- during rearing period			herd	1	0						
- during production period			herd	4	0						

Table 3.2.2 Salmonella sp. in other commercial poultry

	Source of information	Remarks	Epidemiological unit	Flocks tested	Flocks positive	S. Enteritidis	S. Typhimurium	S. Virchow	S. Hadar	S. Infantis	other serovars
Gallus gallus											
laying hens											
day-old chicks			flock	25	2	1		1			
- during rearing period			flock	4	1	1					
- during production period			flock	21	11	8	0				
broilers											
day-old chicks			flock	281	17	14			1	1	1
- during rearing period			flock	134	46	27	3	4			12
Turkeys											
breeding flocks, unspecified			flock	8	2	1	1				
- during production period			flock	11	3						3

Table 3.2.3 Salmonella sp. in non-commercial poultry and birds

	Source of information	Remarks	Epidemiological unit	Flocks tested	Flocks positive	S. Enteritidis	S. Typhimurium	S. Virchow	other serovars
Pigeons (1)			animal	1	0				
Quails			flock	28	17		7	1	9
Partridges			flock	148	17		7		10
Wildlife									
wild birds									
- monitoring programme (2)			animal	54	3	2	1		

(1) : INTERREG PROGRAMME
(2) : INTERREG PROGRAMME

Table 3.2.4 Salmonella sp. in animals (non poultry)

	Source of information	Remarks	Epidemiological unit	Units tested	Units positive	S. Enteritidis	S. Typhimurium	Salmonella spp.
Cattle (bovine animals)			herd	3	2	1	0	2
Sheep			animal	20	6			6
Goats			animal	1	0			
Solipeds			animal	4	2			2

2.1.5. Salmonella in feedstuffs

Table 3.1.1 Salmonella sp. in feed material of animal origin

	Source of information	Remarks	Epidemiological unit	Sample weight	Units tested	Units positive	S. Enteritidis	S. Typhimurium
Feed material of land animal origin								
Meat and bone meal	A		SAMPLE	500 GRS	41	1	1	
Greaves	A		SAMPLE	500 GRS	1	0		
Poultry offal meal	A		SAMPLE	500 GRS	26	1	1	
Animal fat	A		SAMPLE	500 GRS	1	0		
Feed material of marine animal origin								
Fish meal			SAMPLE	500 GRS	89	5	5	

Footnote

A: compulsory monitoring program

Table 3.1.2 Salmonella sp. in feed of vegetable origin

	Source of information	Remarks	Epidemiological unit	Sample weight	Units tested	Units positive	S. Enteritidis	S. Typhimurium
Feed material of cereal grain origin								
Barley derived	A		SAMPLE	500 GRS	29	0		
Wheat derived	A		SAMPLE	500 GRS	16	0		
Maize derived	A		SAMPLE	500 GRS	28	0		
	A		SAMPLE	500 GRS	4	0		
Feed material of oil seed or fruit origin								
Soya (bean) derived	A		SAMPLE	500 GRS	37	0		
Cotton seed derived	A		SAMPLE	500 GRS	9	0		
Sunflower seed derived	A		SAMPLE	500 GRS	1	0		
other oil seeds derived	A		SAMPLE	500 GRS	1	0		
other feed material								
Legume seeds and similar products	A		SAMPLE	500 GRS	3	0		
Tubers, roots and similar products	A		SAMPLE	500 GRS	6	0		
Other seeds and fruits	A		SAMPLE	500 GRS	1	0		
Forages and roughages	A		SAMPLE	500 GRS	2	0		
Other plants	A		SAMPLE	500 GRS	3	0		

Footnote

A: compulsory monitoring program

Table 3.1.3 Salmonella sp. in compound feedingstuff

	Source of information	Remarks	Epidemiological unit	Sample weight	Units tested	Units positive	S. Enteritidis	S. Typhimurium	Salmonella spp.	S. Anatum	S. Infantis
Compound feedingstuffs for cattle											
Final product	A		SAMPLE	500 GRS	177	2			1	1	
Compound feedingstuffs for pigs											
Final product	A		SAMPLE	500 GRS	97	1					1
Compound feedingstuffs for poultry (non specified)											
Process control	A		SAMPLE	500 GRS	23	2					
Final product	A		SAMPLE	500 GRS	21	0					
Compound feedingstuffs for poultry - laying hens											
Final product	A		SAMPLE	500 GRS	18	2	2				
Compund feedingstuffs for poultry - broilers											
Final Product	A		SAMPLE	500 GRS	8	0					
Pet food											
Dog snacks (pig ears, chewing bones)	A		SAMPLE		23	0					
Compound feedingstuffs for rabbits	A		SAMPLE	500 GRS	1	0					
Compound feedingstuffs for horses	A		SAMPLE	500 GRS	5	0					

2.1.6. *Salmonella* serovars and phagetype distribution

The methods of collecting, isolating and testing of the Salmonella isolates are described in the chapters above respectively for each animal species, foodstuffs and humans. The serotype and phagetype distributions can be used to investigate the sources of the Salmonella infections in humans. Findings of same serovars and phagetypes in human cases and in foodstuffs or animals may indicate that the food category or animal species in question serves as a source of human infections. However as information is not available from all potential sources of infections, conclusions have to be drawn with caution.

Table 3.3.3 Salmonella serovars in animals

Serovars		Cattle (bovine animals)		Pigs		Gallus gallus		Other poultry		all animals	
Sources of isolates		M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)
Number of isolates in the laboratory	N=		1							3	
Number of isolates serotyped	N=		1							3	
Number of isolates per type											
S. Enteritidis										2	
S. Ndolo			1								
S. Typhimurium										1	
Total of typed *Salmonella*isolates											

Footnote

(*) M : Monitor, C : Clinical

Table 3.3.4 Salmonella serovars in food

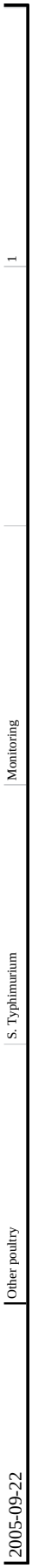
Serovars		Bovine meat		Pig meat		Broiler meat		Other poultry		Other products of animal origin	
Sources of isolates		M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)
Number of isolates in the laboratory	N=					11		10			
Number of isolates serotyped	N=					11		10			
Number of isolates per type											
S. Braenderup								1			
S. Enteritidis						11					
S. Livingstone								1			
S. Saintpaul								8			
S. Typhimurium								1			
Total of typed *Salmonella*isolates											

Footnote

(*) M : Monitor, C : Clinical

The following amendments were made :

Date of modification	Species	Line	Column	Old value	New value


1
Monitoring
S. Typhimurium
Other poultry
2005-09-22

2.1.7. Antimicrobial resistance in *Salmonella* isolates

Antimicrobial resistance is the ability of certain microorganisms to survive or grow in the presence of a given concentration of antimicrobial agent that usually would kill or inhibit the microorganism species in question. Antimicrobial resistant Salmonella strains may be transferred from animals or foodstuffs to humans.

A. Antimicrobial resistance in Salmonella in pigs

Sampling strategy used in monitoring

Frequency of the sampling

There is a specific monitoring programme for antimicrobial surveillance running from 1999 at national level in Spain

Type of specimen taken

Faeces from healthy animals

Methods of sampling (description of sampling techniques)

Two faecal samples from two different animals from each of the farms arriving at the slaughterhouse on the sampling day

Procedures for the selection of isolates for antimicrobial testing

One isolate per serotype and per farm

Methods used for collecting data

Laboratory antimicrobial susceptibility test centralised approach

Laboratory methodology used for identification of the microbial isolates

Commercial multisubstrate identification test, antisalmonella sera, PCR, and serotyping

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Those mentioned in tables plus apramycin, cephalotin, amikacin, amixicillin plus clavulanic acid, aztreonam, cefoxitin and imipenem

Breakpoints used in testing

NCCLS breakpoints when available.

B. Antimicrobial resistance in Salmonella in poultry

Sampling strategy used in monitoring

Frequency of the sampling

National antimicrobial resistance surveillance programme running from 2003 at national level

Type of specimen taken

Full intestinal content of healthy animals

Methods of sampling (description of sampling techniques)

Full intestinal content from three different animals belonging to the same farm arriving at the slaughterhouse during the sampling day

Procedures for the selection of isolates for antimicrobial testing

One isolate per serovar per farm

Methods used for collecting data

Those mentioned in the pig monitoring

Laboratory methodology used for identification of the microbial isolates

The mentioned in the pig monitoring

Laboratory used for detection for resistance

Antimicrobials included in monitoring

Those mentioned in the pig monitorig

Breakpoints used in testing

NCCLS when available

Table 3.2.5.2 Antimicrobial susceptibility testing of S.Enteritidis in animals

	S. Enteritidis							
	Cattle (bovine animals)		**Pigs**		**Gallus gallus**		**Turkeys**	
Isolates out of a monitoring program					no			
Number of isolates available in the laboratory					26			
Antimicrobials:	**N**	**%R**	**N**	**%R**	**N**	**%R**	**N**	**%R**
Tetracycline					26	3.8%		
Amphenicols								
Chloramphenicol					26	0%		
Florfenicol					26	0%		
Cephalosporin								
3rd generation cephalosporins(1)					26	0%		
Ceftazidim					26	0%		
Fluoroquinolones								
Ciprofloxacin					26	0%		
Quinolones								
Nalidixic acid					26	96.2%		
Trimethoprim					26	0%		
Sulfonamides								
Sulfonamide					26	3.8%		
Aminoglycosides								
Streptomycin					26	0%		
Gentamicin					26	0%		
Neomycin					26	0%		
Penicillins								
Ampicillin(2)					26	15.4%		
Number of multiresistant isolates								
fully sensitives					26	3.8%		
resistant to 1 antimicrobial					26	76.9%		
resistant to 2 antimicrobials					26	15.4%		
resistant to 3 antimicrobials					26	3.8%		
resistant to 4 antimicrobials					26	0%		
resistant to >4 antimicrobials					26	0%		

(1) : CEFOTAXIME
(2) : amoxicillin

2005-11-30	Species	Line	Column	New value
	Gallus gallus	Gentamicin	%R	0

Table Antimicrobial susceptibility testing of S. Enteritidis in Poultry - at slaughter - quantitative data [Dilution method]

Percentage of resistant isolates (R%) and percentage of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

S. Enteritidis

Poultry - at slaughter

Isolates out of a monitoring program	yes																				
Number of isolates available in the laboratory																					
Antimicrobials:	**N**	**%R**	**<=0.03**	**0.06**	**0.12**	**0.25**	**0.5**	**1**	**2**	**4**	**8**	**16**	**32**	**64**	**128**	**256**	**512**	**1024**	**2048**	**>2048**	**lowest**	**highest**

Footnote

Monitoring programme

Table Antimicrobial susceptibility testing of S. Rissen - qualitative data

	S. Rissen	
	Pigs - at slaughter - monitoring programme	
Isolates out of a monitoring program	no	
Number of isolates available in the laboratory	14	
Antimicrobials:	**N**	**%R**
Tetracycline	14	93%
Amphenicols		
Chloramphenicol	14	29%
Florfenicol	14	0%
Cephalosporin		
Cefotaxim	14	0%
Fluoroquinolones		
Ciprofloxacin	14	0%
Quinolones		
Nalidixic acid	14	14%
Trimethoprim	14	
Sulfonamides		
Sulfonamide	14	21%
Aminoglycosides		
Streptomycin	14	21%
Gentamicin	14	7%
Neomycin	14	7%
Penicillins		
Ampicillin(1)	14	43%

(1) : Amoxicillin

Table 3.2.5.3 Antimicrobial susceptibility testing of S.Typhimurium in animals

	S. Typhimurium							
	Cattle (bovine animals)		**Pigs**		**Gallus gallus**		**Turkeys**	
Isolates out of a monitoring program			no					
Number of isolates available in the laboratory			30					
Antimicrobials:	**N**	**%R**	**N**	**%R**	**N**	**%R**	**N**	**%R**
Tetracycline			30	96.7%				
Amphenicols								
Chloramphenicol			30	46.7%				
Florfenicol			30	26.7%				
Cephalosporin								
3rd generation cephalosporins(1)			30	0%				
Ceftazidim			30	0%				
Fluoroquinolones								
Ciprofloxacin			30	0%				
Quinolones								
Nalidixic acid			30	3.3%				
Trimethoprim			30	3.3%				
Sulfonamides								
Sulfonamide			30	66.7%				
Aminoglycosides								
Streptomycin			30	60%				
Gentamicin			30	0%				
Neomycin			30	0%				
Penicillins								
Ampicillin(2)			30	66.7%				
Number of multiresistant isolates								
fully sensitives			30	0%				
resistant to 1 antimicrobial			30	33.3%				
resistant to 2 antimicrobials			30	0%				
resistant to 3 antimicrobials			30	0%				
resistant to 4 antimicrobials			30	26.7%				
resistant to >4 antimicrobials			30	39.9%				

(1) : cefotaxime
(2) : amoxicillin

Table Antimicrobial susceptibility testing of S. Typhimurium in Pigs - at slaughter - monitoring programme - quantitative data [Dilution method]

Percentage of resistant isolates (R%) and percentage of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	S. Typhimurium
	Pigs - at slaughter - monitoring programme
Isolates out of a monitoring program	no
Number of isolates available in the laboratory	30

Antimicrobials:	**N**	**%R**	**<=0.03**	**0.06**	**0.12**	**0.25**	**0.5**	**1**	**2**	**4**	**8**	**16**	**32**	**64**	**128**	**256**	**512**	**1024**	**2048**	**>2048**	**lowest**	**highest**
Tetracycline	30	96.7%							3.3				40	10	16.7	30					0.5	256
Amphenicols																						
Chloramphenicol	30	46.7								10	33.3	10			3.3	36.7	6.7				2	256
Florfenicol	30	26.7								60	6.7	6.7	23.3	3.3							2	64
Cephalosporin																						
3rd generation cephalosporins(1)	30	0		40	36.7	10	13.3														0.03	4
Fluoroquinolones																						
Ciprofloxacin	30	0		93.3	3.3		3.3														0.06	32
Quinolones																						
Nalidixic acid	30	3.3							13.3	63.3	20					3.3					0.5	128
Aminoglycosides																						
Gentamicin	30	0				6.7	56.7	36.7													0.25	64
Neomycin	30	0					13.3	66.7	13.3	6.7											0.25	64
Penicillins																						
Ampicillin(2)	30	66.7						13.3	16.7	3.3							66.7				1	256

(1) : cefotaxime
(2) : amoxicillin

Table 3.2.5.1 Antimicrobial susceptibility testing of Salmonella spp. in animals

	Salmonella spp.							
	Cattle (bovine animals)		**Pigs**		**Gallus gallus**		**Turkeys**	
Isolates out of a monitoring program			no		no			
Number of isolates available in the laboratory			122		36			
Antimicrobials:	**N**	**%R**	**N**	**%R**	**N**	**%R**	**N**	**%R**
Tetracycline			122	81.1%	36	13.9%		
Amphenicols								
Chloramphenicol			122	28.7%	36	2.8%		
Florfenicol			122	7.4%	36	0%		
Cephalosporin								
3rd generation cephalosporins			122	0%	36	8.3%		
Ceftazidim			122	0%	36	0%		
Fluoroquinolones								
Ciprofloxacin			122	0%	36	2.8%		
Quinolones								
Nalidixic acid			122	5.7%	36	91.7%		
Trimethoprim			122	33.6%	36	8.3%		
Sulfonamides								
Sulfonamide			122	53.3%	36	11.1%		
Aminoglycosides								
Streptomycin			122	36.1%	36	11.1%		
Gentamicin			122	4.1%	36	0%		
Neomycin			122	5.7%	36	5.6%		
Penicillins								
Ampicillin(1)			122	48.4%	36	22.2%		
Number of multiresistant isolates								
fully sensitives			122	15.6%	36	8.3%		
resistant to 1 antimicrobial			122	23%	36	63.9%		
resistant to 2 antimicrobials			122	4.1%	36	11.1%		
resistant to 3 antimicrobials			122	12.3%	36	5.6%		
resistant to 4 antimicrobials			122	20.5%	36	0%		
resistant to >4 antimicrobials			122	24.6%	36	11.1%		

(1) : AMOXICILLIN

Footnote

Including enteritidis and typhimurium serovars

Table Antimicrobial susceptibility testing of Salmonella spp. in Poultry - quantitative data [Dilution method]

Percentage of resistant isolates (R%) and percentage of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	Salmonella spp.
	Poultry
Isolates out of a monitoring program	no
Number of isolates available in the laboratory	36

Antimicrobials:	**N**	**%R**	**<=0.03**	**0.06**	**0.12**	**0.25**	**0.5**	**1**	**2**	**4**	**8**	**16**	**32**	**64**	**128**	**256**	**512**	**1024**	**2048**	**>2048**	**lowest**	**highest**
Tetracycline	36	13.9%						25	58.3	2.8			8.3	2.8			2.8				0.5	256
Amphenicols																						
Chloramphenicol	36	2.8								41.7	52.8	2.8				2.8					2	256
Florfenicol	36	0								91.7	5.6	2.8									2	64
Cephalosporin																						
3rd generation cephalosporins(1)	36	8.3		38.9	38.9	8.3	5.6			2.8	5.6										0.03	4
Fluoroquinolones																						
Ciprofloxacin	36	2.8		8.3	2.8	55.6	27.8	2.8		2.8											0.06	32
Quinolones																						
Nalidixic acid	36	91.7							2.8	2.8	2.8		2.8	2.8	8.3	77.8					0.5	128
Aminoglycosides																						
Gentamicin	36	0				27.8	55.6	16.7													0.5	64
Neomycin	36	0					25.0	52.8	11.1	5.6				2.8	2.8						0.5	64
Penicillins																						
Ampicillin(2)	36	22.2						55.6	19.4	2.8						2.8	19.4				1	256

(1) : cefotaxime
(2) : amoxicillin

The following amendments were made :

Date of modification	Antimicrobial	Column	Old value	New value
2005-11-30	isolates out of monitoring		yes	no

Table 3.2.5.5 Antimicrobial susceptibility testing of Salmonella spp. in food

	Salmonella spp.									
	Broiler meat		**Other poultry meat**		**Pig meat**		**Bovine meat**		**Egg products**	
Isolates out of a monitoring program	no		yes							
Number of isolates available in the laboratory	7		10		1					
Antimicrobials:	**N**	**%R**	**N**	**%R**	**N**	**%R**	**N**	**%R**	**N**	**%R**
Tetracycline	7	14%	10	50%	1	100%				
Amphenicols										
Chloramphenicol	7	43%	10	50%	1	0%				
Cephalosporin										
3rd generation cephalosporins	4	0%			1	0%				
Fluoroquinolones										
Ciprofloxacin	7	0%	10	0%	1	0%				
Enrofloxacin	3	0%	10	0%						
Quinolones										
Nalidixic acid	7	57%			1	0%				
Trimethoprim	3	0%								
Sulfonamides										
Sulfonamide	4	0%			1	0%				
Aminoglycosides										
Streptomycin	7	0%			1	0%				
Gentamicin	7	0%			1	0%				
Neomycin	3	0%								
Kanamycin	7	0%			1	0%				
Penicillins										
Ampicillin	7	14%	10	20%	1	0%				
Number of multiresistant isolates										
fully sensitives	2	29%								
resistant to 1 antimicrobial	3	43%			1	100%				
resistant to 2 antimicrobials	1	14%								
resistant to 4 antimicrobials	1	14%								

Footnote

ENDSS : Epidemiological Notifiable Disease Surveillance System

Table 3.2.6 Breakpoints for antibiotic resistance of Salmonella in Animals

Test Method Used

- Disc diffusion
- Agar dilution
- Broth dilution
- E-test

Standards used for testing

- NCCLS
- CASFM

Subject to quality control

Salmonella	Standard for breakpoint	Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		disk content	breakpoint Zone diameter (mm)		
		Susceptible <=	Intermediate	Resistant >	lowest	highest	microg	Susceptible >=	Intermediate	Resistant <=
Tetracycline				8	0.5	256				
Amphenicols										
Chloramphenicol				16	2	256				
Florfenicol				16	2	64				
Fluoroquinolones										
Ciprofloxacin				2	0.06	32				
Enrofloxacin										
Quinolones										
Nalidixic acid				16	0.5	128				
Trimethoprim										
Sulfonamides										
Sulfonamide										
Aminoglycosides										
Streptomycin										
Gentamicin				8	0.25	64				
Neomycin										
Kanamycin										
Trimethoprim + sulfonamides										
Cephalosporin										
3rd generation cephalosporins(1)				0.5	0.03	4				
Penicillins										
Ampicillin(2)				16	1	256				

(1) : cefotaxime
(2) : amoxicillin

Table 3.2.6 Breakpoints for antibiotic resistance of Salmonella in Food

Test Method Used

- Disc diffusion
- Agar dilution
- Broth dilution
- E-test

Standards used for testing

- NCCLS
- CASFM

Subject to quality control

Salmonella	Standard for breakpoint	Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		disk content	breakpoint Zone diameter (mm)		
		Susceptible <=	Intermediate	Resistant >	lowest	highest	microg	Susceptible >=	Intermediate	Resistant <=
Tetracycline										
Amphenicols										
Chloramphenicol										
Florfenicol										
Fluoroquinolones										
Ciprofloxacin		1		4			5	20	16	15
Enrofloxacin										
Quinolones										
Nalidixic acid		8		32			30	18	18	13
Trimethoprim										
Sulfonamides										
Sulfonamide		100		350			300	16	13	12
Aminoglycosides										
Streptomycin		4		16			10	14	12	12
Gentamicin		4		8			10	14	13	12
Neomycin										
Kanamycin		6		25			30	17	14	13
Trimethoprim + sulfonamides										
Cephalosporin										
3rd generation cephalosporins(1)		8		32			30	22	22	14
Penicillins										
Ampicillin		8		32			10	13	14	16

(1) : more than one cephalosporin would be desirablle

Table 3.2.6 Breakpoints for antibiotic resistance of Salmonella in Humans

Test Method Used

Disc diffusion
Agar dilution
Broth dilution
E-test

Standards used for testing

NCCLS
CASFM

Subject to quality control

Salmonella	Standard for breakpoint	Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		disk content	breakpoint Zone diameter (mm)		
		Susceptible <=	Intermediate	Resistant >	lowest	highest	microg	Susceptible >=	Intermediate	Resistant <=
Tetracycline										
Amphenicols										
Chloramphenicol										
Florfenicol										
Fluoroquinolones										
Ciprofloxacin										
Enrofloxacin										
Quinolones										
Nalidixic acid										
Trimethoprim										
Sulfonamides										
Sulfonamide										
Aminoglycosides										
Streptomycin										
Gentamicin										
Neomycin										
Kanamycin										
Trimethoprim + sulfonamides										
Cephalosporin										
3rd generation cephalosporins										
Penicillins										
Ampicillin										

2.2. CAMPYLOBACTERIOSIS

2.2.1. General evaluation of the national situation

A. Thermophilic Campylobacter General evaluation

History of the disease and/or infection in the country

Campylobacter spp. is at the moment one of the more frequent causes of gastroenteritis in humans.Poultry are the main reservoir, and infection happens usually by consume of poultry meat.
Until the end of 60´s importance of Campylobacter spp. was not valued.Notification of the disease is also infravaluated in surveillance systems.Epidemiologyc investigations associated cases to poultry meat consume and a deficient handle of food.
The number of cases in Spain is at the moment supported in the isolates maken by different labotatories and notificated to Information Microbiologyc System (SIM).

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

Poultry meat is the main source of infection.In broiler flocks, 2004 study of prevalence showed levels of 90% of infection.Another food implicated are red meat, raw milk, non pasteurized cheese, and water.

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

More studies need to de developed.

Recent actions taken to control the zoonoses

Surveillance of the zoonoses according to Directive 2003/99/EEC.

2.2.2. Campylobacteriosis in humans

Table 6.3.A Campylobacteriosis in man - species/serotype distribution

Campylobacter	Cases	Cases Inc	Autochtone cases	Autochtone Inc	Imported cases	Imported Inc	unknown status
	5958	0	5958	0	0	0	0
C. coli	139		139				
C. jejuni	4959		4959				
C. upsaliensis							
Campylobacter spp.	860		860				

Footnote

SIM

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-09-22	C. coli	Autochtone cases	139	139
	C. jejuni	Autochtone cases	4959	4959
	Campylobacter spp.	Autochtone cases	860	860

Table 6.3.B Campylobacteriosis in man - age distribution

Age Distribution	C. coli			C. jejuni			Campylobacter spp.		
	All	M	F	All	M	F	All	M	F
<1 year	40	19	21	1835	1068	762	154	90	61
1 to 4 years	32	15	17	1378	828	549	110	76	34
5 to 14 years	14	10	4	411	235	174	41	16	25
15 to 24 years	7	3	4	132	84	48	12	9	3
25 to 44 years	15	10	5	312	186	125	35	22	13
45 to 64 years	7	2	5	254	154	99	30	15	15
65 years and older	16	5	11	287	157	130	42	22	20
Age unknown	8	4	4	350	191	154	436	257	178
Total :	139	68	71	4959	2903	2041	860	507	349

Footnote

S.I.M.= Microbiological information system.
C. sp. 4 gender unknown
C. Jejuni 15 cases gender unknown.

Table 6.3.C Campylobacteriosis in man - seasonal distribution

Month	C. coli	C. jejuni	C. upsaliensis	Campylobacter spp.
	Cases	Cases	Cases	Cases
January	11	370		77
February	6	406		87
March	7	372		82
April	6	291		61
May	10	471		67
June	15	457		77
July	12	408		58
August	18	384		72
September	11	314		76
October	11	356		47
November	10	345		50
December	13	437		50
not known	9	348		56
Total :	139	4959	0	860

Footnote

Four weeks period

2.2.3. Campylobacter in foodstuffs

Table 6.2 Thermophilic Campylobacter spp. in food

	Source of information	Remarks	Epidemiological unit	Sample weight	Units tested	C. coli	C. lari	C. upsaliensis	C. jejuni	Campylobacter spp.
Bovine meat										
fresh										
- at slaughter	A		M		46					
- at processing plant	A		M		21					
- at retail	B		M		30					
meat products										
- at processing plant	B		M		12					
- at retail	B		M		38					
Pig meat										
fresh										
- at slaughter	AB		M		60					
- at processing plant	AC		M		31					
- at retail	B		M		46					
meat products										
- at processing plant	B		M		12					
- at retail	B		M		38					
Poultry meat										
fresh										
- at slaughter	ABE		M	25 g	146	5			4	58
- at processing plant	AB		M		151	7			11	43
- at retail	ABE	1	M	>250 g	321	4			22	53
meat products										
- at processing plant	B		M		13					
- at retail	BE		M		122	9	2	3	14	30
Other meat										
fresh										
- at slaughter	AB		M	10 g	43					
- at processing plant	A		M		12					
- at retail	AB		M		66					
meat products										
- at processing plant	B		M		12					
- at retail	B		M		47					
cow milk										

raw	ABE		M		1116					
Dairy products										
ready-to-eat	ABCE		M		297					
Fishery products										
fish	AE		M		31					
Other food	B		M		43					
Prepared food	ABCE		M		285					

Footnote

(A) Compulsory monitoring programmes.
(B) Voluntary monitoring programmes.
(C) Surveys.
(D) Other procedures of simpling.
(E) Laboratory reports
Campylobacter spp = Number of samples not speciated.

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-10-26	Dairy products - ready-to-eat	Source of information		ABCE
	Dairy products - ready-to-eat	Epidemiological unit		M
	Dairy products - ready-to-eat	Units tested		297
2005-10-26	Prepared food	Source of information		ABCE
	Prepared food	Epidemiological unit		M
	Prepared food	Units tested		285

2.2.4. Campylobacter in animals

A. Thermophilic Campylobacter in Gallus gallus

Monitoring system

Sampling strategy

Sampling stategy is random, not stratified by regions and taken by Algete LNR at farm to perform a prevalence study.
At slaughter samples have been taken by competent authorities of Authonomous Comunity of Cataluña.

Frequency of the sampling

Rearing period

Sampling distributed evenly throughout the year

Before slaughter at farm

Sampling distributed evenly throughout the year

At slaughter

Sampling distributed evenly throughout the year

Type of specimen taken

Rearing period

Faeces

Before slaughter at farm

Faeces

At slaughter

Faeces

Methods of sampling (description of sampling techniques)

Rearing period

cloacae swabs
60 samples by flock

Before slaughter at farm

cloacae swabs
10 samples by flock

At slaughter

cloacae swabs

Case definition

Rearing period

isolate by bacteriological method

Before slaughter at farm

isolate by bacteriological method

At slaughter

idem

Diagnostic/analytical methods used

Rearing period

Bacteriological method: ISO 6579:2002

Before slaughter at farm

Bacteriological method: ISO 6579:2002

At slaughter

Bacteriological method: ISO 6579:2002

Vaccination policy

don´t exist

Control program/mechanisms

The control program/strategies in place

don´t exist

Table 6.1.1 Thermophilic Campylobacter spp. in animals

	Source of information	Remarks	Epidemiological unit	Units tested	Units positive	C. jejuni	C. coli	C. lari	C. upsaliensis	Campylobacter spp.
Cattle (bovine animals)										
others			animal	7	4					4
Sheep			animal	14	0					
Gallus gallus										
broilers										
- at farm			flock	20	18					18
- at slaughter			flock	134	114	21				93
Other poultry (1)			flock	29	29					29

(1) : breeding flocks of Gallus gallus

2.2.5. Antimicrobial resistance in *Campylobacter* isolates

Table Antimicrobial susceptibility testing of C. coli - qualitative data

	C. coli			
	Pigs - at slaughter - monitoring programme		**Poultry - at slaughter - monitoring programme**	
Isolates out of a monitoring program	no		no	
Number of isolates available in the laboratory	113		31	
Antimicrobials:	**N**	**%R**	**N**	**%R**
Tetracycline	90	95.6%	28	86%
Fluoroquinolones				
Ciprofloxacin	90	83.3%	28	96%
Quinolones				
Nalidixic acid	89	86.5%	28	96%
Aminoglycosides				
Gentamicin	88	15.9%	28	7%
Macrolides				
Erythromycin	113	66.4%	31	19%
Penicillins				
Ampicillin(1)	88	59.1%	28	32%

(1) : Amoxicillin

Table Antimicrobial susceptibility testing of C. coli in Poultry - at slaughter - monitoring programme - quantitative data [Dilution method]

Percentage of resistant isolates (R%) and percentage of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	C. coli
	Poultry - at slaughter - monitoring programme
Isolates out of a monitoring program	no
Number of isolates available in the laboratory	31

Antimicrobials:	**N**	**%R**	**<=0.03**	**0.06**	**0.12**	**0.25**	**0.5**	**1**	**2**	**4**	**8**	**16**	**32**	**64**	**128**	**256**	**512**	**1024**	**2048**	**>2048**	**lowest**	**highest**
Tetracycline	28	86%					11				4	4	18	36	21	7					0.5	256
Fluoroquinolones																						
Ciprofloxacin	28	96			4					4	21	46	18	7							0.06	32
Quinolones																						
Nalidixic acid	28	96								4			7	71	14	4					0.5	128
Aminoglycosides																						
Gentamicin	28	7					7	57	29						7						0.5	64
Penicillins																						
Ampicillin	28	32						11	18	14	21	4		11	21						1	256

The following amendments were made :

Date of modification	Antimicrobial	Column	Old value	New value
2005-11-30	isolates out of monitoring			no

Table Antimicrobial susceptibility testing of C. coli in Pigs - at slaughter - monitoring programme - quantitative data [Dilution method]

Percentage of resistant isolates (R%) and percentage of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	C. coli
	Pigs - at slaughter - monitoring programme
Isolates out of a monitoring program	no
Number of isolates available in the laboratory	113

Antimicrobials:	**N**	**%R**	**<=0.03**	**0.06**	**0.12**	**0.25**	**0.5**	**1**	**2**	**4**	**8**	**16**	**32**	**64**	**128**	**256**	**512**	**1024**	**2048**	**>2048**	**lowest**	**highest**
Tetracycline	90	95.6%					1.1	1.1			2.2	3.3	18.9	41.1	31.1	1.1					0.5	256
Fluoroquinolones																						
Ciprofloxacin	90	83.3		1.1	7.8	4.4	1.1	1.1	1.1	6.7	36.7	28.9	11.1								0.06	32
Quinolones																						
Nalidixic acid	89	86.5								5.6	7.9		3.4	43.8	38.2	1.1					0.5	128
Aminoglycosides																						
Gentamicin	88	15.9					1.1	17.0	59.1	4.5	2.3		1.1		14.8						0.25	64
Penicillins																						
Ampicillin(1)	88	59.1							22.7	4.5	3.4	10.2		4.5	26.1	23.9	3.4	1.1			1	256

(1) : Amoxicillin

Table Antimicrobial susceptibility testing of C. jejuni - qualitative data

	C. jejuni	
	Poultry - at slaughter - monitoring programme	
Isolates out of a monitoring program	yes	
Number of isolates available in the laboratory	18	
Antimicrobials:	**N**	**%R**
Tetracycline	5	20%
Fluoroquinolones		
Ciprofloxacin	5	100%
Quinolones		
Nalidixic acid	5	100%
Aminoglycosides		
Gentamicin	5	0%
Macrolides		
Erythromycin	18	28%
Penicillins		
Ampicillin	5	40%

Table 6.1.2 Antimicrobial susceptibility testing of Campylobacter in animals

	Campylobacter spp.					
	Cattle (bovine animals)		**Pigs**		**Poultry**	
Isolates out of a monitoring program			yes		yes	
Number of isolates available in the laboratory						
Antimicrobials:	**N**	**%R**	**N**	**%R**	**N**	**%R**

Table 6.1.6 Breakpoints used for antimicrobial susceptibility testing of Campylobacter in Animals

Test Method Used

Disc diffusion
Agar dilution
Broth dilution
E-test

Standards used for testing

NCCLS
CASFM

Subject to quality control

Campylobacter	Standard for breakpoint	Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		disk content	breakpoint Zone diameter (mm)		
		Susceptible <=	Intermediate	Resistant >	lowest	highest	microg	Susceptible >=	Intermediate	Resistant <=
Tetracycline	danmap			8	0.5	256				
Fluoroquinolones										
Ciprofloxacin	arbao			2	0.06	32				
Quinolones										
Nalidixic acid	arbao			16	0.5	128				
Aminoglycosides										
Gentamicin	danmap			8	0.25	64				
Macrolides										
Erythromycin	sfm			13			15			14
Penicillins										
Ampicillin				16	1	256				

Footnote

Amoxicillin instead of ampicillin

The following amendments were made :

Date of modification	Zoonose	Column	Old value	New value
2005-11-30	Gentamicin	lowest	0.5	0.25
	Erythromycin	Resistant >		13

Table 6.1.6 Breakpoints used for antimicrobial susceptibility testing of Campylobacter in Food

Test Method Used

Disc diffusion
Agar dilution
Broth dilution
E-test

Standards used for testing

NCCLS
CASFM

Subject to quality control

Campylobacter	Standard for breakpoint	Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		disk content	breakpoint Zone diameter (mm)		
		Susceptible <=	Intermediate	Resistant >	lowest	highest	microg	Susceptible >=	Intermediate	Resistant <=
Tetracycline				8						
Fluoroquinolones										
Ciprofloxacin				4						
Quinolones										
Nalidixic acid										
Aminoglycosides										
Gentamicin				16						
Macrolides										
Erythromycin				2						
Penicillins										
Ampicillin				32						

2.3. LISTERIOSIS

2.3.1. General evaluation of the national situation

2.3.2. Listeriosis in humans

Table 7.2.A Listeriosis in man - species/serotype distribution

Listeria	Cases	Cases Inc
	100	0
L. monocytogenes	100	
Listeria spp.(1)	0	
congenital cases	9	
deaths	1	

(1) : listeriosis in man

Footnote

S.I.M.

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-09-22	Listeria spp.	Cases		100
2005-11-30	Listeria spp.	Cases	100	0

Table 7.2.B Listeriosis in man - age distribution

Age Distribution	L. monocytogenes			Listeria spp.		
	All	M	F	All	M	F
<1 year	9	4	4			
1 to 4 years						
5 to 14 years						
15 to 24 years						
25 to 44 years	15	6	9			
45 to 64 years	26	17	8			
65 years and older	46	29	17			
Age unknown	4	1	1			
Total :	100	57	39	0	0	0

Footnote

S.I.M.
4 cases gender unknown

The following amendments were made :

Date of modification	Zoonose	Line	Column	Old value	New value
2005-09-22	L. monocytogenes	<1 year	All		9
	L. monocytogenes	<1 year	M		4
	L. monocytogenes	<1 year	F		4
	L. monocytogenes	25 to 44 years	All	15	15
	L. monocytogenes	25 to 44 years	M	6	6
	L. monocytogenes	25 to 44 years	F	9	9
	L. monocytogenes	45 to 64 years	All	26	26
	L. monocytogenes	45 to 64 years	M	17	17
	L. monocytogenes	45 to 64 years	F	8	8
	L. monocytogenes	65 years and older	All	46	46
	L. monocytogenes	65 years and older	M	29	29
	L. monocytogenes	65 years and older	F	17	17
	L. monocytogenes	Age unknown	All	4	4
	L. monocytogenes	Age unknown	M	1	1
	L. monocytogenes	Age unknown	F	1	1

2.3.3. Listeria in foodstuffs

Table 7.1 Listeria monocytogenes in food

	Source of information	Remarks	Epidemiological unit	Sample weight	Definition used	Units tested	<100 cfu/g	>100 cfu/g	L. monocytogenes
Bovine meat									
meat products									
ready-to-eat									
- at processing plant	BEF		M		Press	64			19
fresh	ABC		M	25g	Pres/>100	82			
Pig meat									
meat products									
ready-to-eat									
- at processing plant	ABCEF	0	M	25 g	Press>100	676			36
fresh	ABC		M	25g	Pres/>100	118			2
Poultry meat									
meat products									
ready to eat									
- at processing plant	ABEF	0	M	25 g	Press	37			6
fresh	AB		M	25g	Pres/>100	187			15
Other meat									
meat products									
ready-to-eat									
- at processing plant	ABE		M	25 g	Press	15			
minced meat	ABC		M/L	25g/250g	Pres/10/>100	361			62
fresh	ABC		M	25g	Pres	29			
Dairy products									
ice-cream	AB		M/L	25g/250g	Pres.	266			3
Dairy products, not specified	ABCDEF		M/L	25g/250g	Pres/10/>100	1784			39
Fishery products									
fish	ABCEF		M/L	1g/25g	Pres/10/>100	748			52
smoked									
- at processing plant	0	0	0	0	0	0			0
Egg products	A		M	25g	Pres/>100	34			
Vegetables	ABE		M	25g	Pres/>100	143			7
Prepared food	ABCE		M	25g/350g	Pres/10/>100	4057			87
Foods not specified	ABC		M	25g	Pres/>100	201			8

Footnote

(A) Compulsory monitoring.
(B) Voluntary monitoring programmes.
(C) Surveys.
(D) Other procedures of sampling.
(E) Laboratory reports.
(F) National Reference Laboratory.

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-10-26	Dairy products - ice-cream	Source of information		AB
	Dairy products - ice-cream	Epidemiological unit		m/l
	Dairy products - ice-cream	Sample weight		25g/250g
	Dairy products - ice-cream	Definition used		Pres.
	Dairy products - ice-cream	Units tested		266
	Dairy products - ice-cream	L. monocytogenes		3
2005-10-26	Dairy products - ice-cream	Epidemiological unit	m/l	M/L
	Dairy products - Dairy products, not specified	Source of information		ABCDE
	Dairy products - Dairy products, not specified	Epidemiological unit		M/L
	Dairy products - Dairy products, not specified	Sample weight		25g/250g
	Dairy products - Dairy products, not specified	Definition used		Pres/10/>100
	Dairy products - Dairy products, not specified	Units tested		1704
	Dairy products - Dairy products, not specified	L. monocytogenes		26
2005-10-26	Fishery products - fish - smoked - at processing plant	Remarks	4	0
	Egg products	Source of information		A
	Egg products	Epidemiological unit		M
	Egg products	Sample weight		25g
	Egg products	Definition used		Pres/>100
	Egg products	Units tested		34
2005-10-26	Vegetables	Source of information		ABE
	Vegetables	Epidemiological unit		M
	Vegetables	Sample weight		25g
	Vegetables	Definition used		Pres/>100
	Vegetables	Units tested		143
	Vegetables	L. monocytogenes		7
2005-10-31	Prepared food	Source of information		ABCE
	Prepared food	Epidemiological unit		M
	Prepared food	Sample weight		25g/350g
	Prepared food	Definition used		Pres/10/>100
	Prepared food	Units tested		4057
	Prepared food	L. monocytogenes		87
2005-10-31	Foods not specified	Source of information		ABC
	Foods not specified	Epidemiological unit		M
	Foods not specified	Sample weight		25g
	Foods not specified	Definition used		Pres/>100
	Foods not specified	Units tested		201
	Foods not specified	L. monocytogenes		8
2005-10-31	Fishery products - fish - smoked - at processing plant	Source of information	ABCE	0
	Fishery products - fish - smoked - at processing plant	Epidemiological unit	M/L	0
	Fishery products - fish - smoked - at processing plant	Units tested	737	0
	Fishery products - fish - smoked - at processing plant	Sample weight	1 g/25 g	0
	Fishery products - fish - smoked - at processing plant	Definition used	Pres/10>100	0
	Fishery products - fish - smoked - at processing plant	L. monocytogenes	52	0
2005-10-31	Bovine meat - fresh	Source of information		ABC
	Bovine meat - fresh	Epidemiological unit		M
	Bovine meat - fresh	Sample weight		25g
	Bovine meat - fresh	Definition used		Pres/>100
	Bovine meat - fresh	Units tested		82
2005-10-31	Fishery products - fish	Source of information		ABCE
	Fishery products - fish	Epidemiological unit		M/L

	Fishery products - fish	Sample weight		1g/25g
	Fishery products - fish	Definition used		Pres/10/>100
	Fishery products - fish	Units tested		737
	Fishery products - fish	L. monocytogenes		52
2005-10-31	Other meat - minced meat	Source of information		ABC
	Other meat - minced meat	Epidemiological unit		M/L
	Other meat - minced meat	Sample weight		25g/250g
	Other meat - minced meat	Definition used		Pres/10/>100
	Other meat - minced meat	Units tested		361
	Other meat - minced meat	L. monocytogenes		62
2005-10-31	Other meat - fresh	Source of information		ABC
	Other meat - fresh	Epidemiological unit		M
	Other meat - fresh	Sample weight		25G
	Other meat - fresh	Definition used		pRES
	Other meat - fresh	Units tested		29
2005-10-31	Other meat - fresh	Sample weight	25G	25g
	Other meat - fresh	Definition used	pRES	Pres
2005-10-31	Pig meat - meat products - ready-to-eat - at processing plant	Remarks	1	0
	Pig meat - fresh	Source of information		ABC
	Pig meat - fresh	Epidemiological unit		M
	Pig meat - fresh	Sample weight		25g
	Pig meat - fresh	Definition used		Pres/>100
	Pig meat - fresh	Units tested		118
	Pig meat - fresh	L. monocytogenes		2
2005-10-31	Poultry meat - fresh	Source of information		AB
	Poultry meat - fresh	Epidemiological unit		M
	Poultry meat - fresh	Sample weight		25g
	Poultry meat - fresh	Definition used		Pres/>100
	Poultry meat - fresh	Units tested		187
	Poultry meat - fresh	L. monocytogenes		15
2005-10-31	Poultry meat - fresh	Source of information	AB	AB
	Poultry meat - fresh	Epidemiological unit	M	M
	Poultry meat - fresh	Sample weight	25g	25g
	Poultry meat - fresh	Definition used	Pres/>100	Pres/>100
	Poultry meat - fresh	Units tested	187	187
	Poultry meat - fresh	L. monocytogenes	15	15
2005-10-31	Bovine meat - meat products - ready-to-eat - at processing plant	Source of information	BE	BEF
	Bovine meat - meat products - ready-to-eat - at processing plant	Units tested	22	64
	Pig meat - meat products - ready-to-eat - at processing plant	Source of information	ABCE	ABCEF
	Pig meat - meat products - ready-to-eat - at processing plant	Units tested	601	676
	Poultry meat - meat products - ready to eat - at processing plant	Source of information	ABE	ABEF
	Poultry meat - meat products - ready to eat - at processing plant	Remarks	2	0
	Poultry meat - meat products - ready to eat - at processing plant	Units tested	31	37
	Dairy products - Dairy products, not specified	Source of information	ABCDE	ABCDEF
	Dairy products - Dairy products, not specified	Units tested	1704	1784
	Fishery products - fish	Source of information	ABCE	ABCEF
	Fishery products - fish	Units tested	737	748
	Bovine meat - meat products - ready-to-eat - at processing plant	L. monocytogenes	5	19
	Poultry meat - meat products - ready to eat - at processing plant	L. monocytogenes	2	6
	Dairy products - Dairy products, not specified	L. monocytogenes	26	39

2.4. VEROCYTOTOXIC ESCHERICHIA COLI

2.4.1. General evaluation of the national situation

A. Verotoxigenic Escherichia coli infections general evaluation

History of the disease and/or infection in the country

Verotoxigenic Escherichia coli have emerged as foodborne pathogens which can cause severe and potencially fatal illness.Rumiants,specially cattle and sheep, have been implicated as the principal reservoir of VTEC.Transmission happened through consumption of undercooked meat, unpasteurized dairy products, vegetables or water contaminated by rumiant faeces.
Studies about VTEC in Spain has been developed by Reference Laboratory of E. coli of Veterinary University of Lugo, that belongs to Colinetwork O157 inside Comission Research FAIR6-CT98-409, as a Tematic Network of Cooperative Research of Health and Consume Ministry of Spain.
Between 1980 and 1995,90% of cattle farms tested in region of Galicia were positive to VTEC, with 26% of animals coloniozed by VTEC no-O157 and 0,9% colonized by ECVT O157:H7. In 1999, 20% of farms and 10% of animals were colonized by ECVT O157:H7.In 1998, 15% of calves tested of others regions of Spain were carrier of ECVT O157:H7.
In sheeps,36% of lambs of region of Extremadura tested in 1997 were carrier of ECVT, but only 0,4% were colonized by strain O157:H7.Similar results has been obtained in studies carried out between 2000 and 2001.

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

In cattle, percentage of animals colonized by strain O157:H7 has been higher in last studies.Raw beef products are the main source of infection.
Small rumiants may also represent a source of transmision of VTEC to humans.

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

The higher percentage of animals colonized by strain O157:H7 in last years agree with growing of human incidence, but outbreaks of the disease are very infrecuent at the moment.

Recent actions taken to control the zoonoses

Surveillance of the disease according to Directive 2003/99/EEC.
Compulsory and voluntary monitoring programmes in raw meat of diferent species of animals, minced meat and meat products, other animal origin products, vegetables and others products.

2.4.2. Verocytotoxic Escherichia coli in humans

Table 11.3.A Verocytotoxic Escherichia coli infections in man - species/serotype distribution

Pathogenic Escherichia coli	Cases	Cases Inc	Autochtone cases	Autochtone Inc	Imported cases	Imported Inc
HUS						
- clinical cases						
- lab. confirmed cases						
- caused by O157 (VT+)						
- caused by other VTEC						
E.coli infect. (except HUS)						
- laboratory confirmed						
- caused by 0157 (VT+)	2		2			
- caused by other VTEC						

Footnote

S.I.M.

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-09-22	- caused by 0157 (VT+)	Autochtone cases		2

2.4.3. Pathogenic Escherichia coli in foodstuffs

Table 11.2 Verocytotoxic Escherchia coli in food

	Source of information	Remarks	Epidemiological unit	Sample weight	Units tested	Units positive	VTEC O 157	VTEC O 157:H7
Bovine meat								
fresh								
- at slaughter	AB		M	>250 g	59			
- at processing plant	AC		M		77			
- at retail	ABCE		M		89			
meat products								
- at processing plant	AB		M		25	1		
- at retail	AB		M		59			
Pig meat								
fresh								
- at slaughter	AB		M	>250 g	97	1		
- at processing plant	AB		M		106			
- at retail	AB		M		142	1		1
meat products								
- at processing plant	AB		M		90	1		
- at retail	ABE		M		293			
Poultry meat								
fresh								
- at slaughter	AB		M		58	1		
- at processing plant	AB		M		23	4		
- at retail	AB		M		188	2		
meat products								
- at processing plant	AB		M		15			
- at retail	ABD		M		153			
Meat from sheep								
fresh								
- at slaughter	AB		M		34			
- at processing plant	AB		M		32			
- at retail	AB		M		53			
Goat meat								
fresh								
- at slaughter	AB		M		9			
- at processing plant	A		M		2			

- at retail	AB		M		28			
Other processed food products								
prepared dishes	ABE		M	>350 g	685	5		
cow milk								
raw	A		M		1112			
heat-treated	AE		M		57			
Dairy products								
Dairy products, not specified	AB		M		399	12		
deserts			M		6			
Fishery products	AB		M	>250 g	319	22		
Table eggs	B		M		27			
Vegetables	AB		M	>25 g	120			
Other meat								
minced meat	AB		M	>250g	865	17		
Other food	A		M		25	1		

Footnote

1)Source of information: A)Compulsory monitoring programmes.B)Voluntary monitoring programmes.C)Surveys.D)Other procedures of sampling.E)Laboratory reports.
2)Epidemiological unit: S=sample

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-11-02	Other meat - minced meat	Source of information		AB
	Other meat - minced meat	Epidemiological unit		M
	Other meat - minced meat	Sample weight		>250g
	Other meat - minced meat	Units tested		865
	Other meat - minced meat	Units positive		17
2005-11-02	Dairy products - Dairy products, not specified	Source of information		AB
	Dairy products - Dairy products, not specified	Epidemiological unit		M
	Dairy products - Dairy products, not specified	Units tested		399
	Dairy products - Dairy products, not specified	Units positive		12
2005-11-02	Dairy products - deserts	Epidemiological unit		M
	Dairy products - deserts	Units tested		6
2005-11-02	Other food	Source of information		A
	Other food	Epidemiological unit		M
	Other food	Units tested		25
	Other food	Units positive		1

2.4.4. Pathogenic Escherichia coli in animals

A. Verotoxigenic Escherichia coli in cattle (bovine animals)

Monitoring system

Sampling strategy

Sampling strategy in studies has been random and developed at two levels:
- at farm in region of Galicia
- at abbatoir over feedlot calves comming from other regions of Spain
Studies has been carried out by Reference Laboratory

Frequency of the sampling

Animals at farm

Other: Different studies since 1980

Animals at slaughter (herd based approach)

Other: Diferent studies in several years

Type of specimen taken

Animals at farm

Faeces

Animals at slaughter (herd based approach)

Faeces

Methods of sampling (description of sampling techniques)

Animals at farm

swabs

Animals at slaughter (herd based approach)

swabs

Case definition

Animals at farm

isolation of VTEC and PCR/IMS

Animals at slaughter (herd based approach)

isolation of VTEC and PCR/IMS

Diagnostic/analytical methods used

Animals at farm

Other: PCR, Inmunomagnetic separation(IMS)

Animals at slaughter (herd based approach)

Other: PCR, IMS

Vaccination policy

In Spain doesn´t exist a vaccination policy.
At farms, vaccines can be used by private veterinarians to control neonatal septicemia in calves.

Control program/mechanisms

The control program/strategies in place

Don´t exist

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

Described in General Evaluation

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

Described in General Evaluation

2.5. TUBERCULOSIS

2.5.1. General evaluation of the national situation

A. Tuberculosis General evaluation

History of the disease and/or infection in the country

Sanitary importance of bovin tuberculosis has been based in the spread of the disease to humans.Human infection has been linked historically to raw milk consumption.In Spain, control of milk was carried out at council town´s level since 1908, but monitoring and eradication programmes in cattle didn´t start systematically until begining of 90´s, focused mainly in dairy cows. At the moment the programme is being applied to cattle over six weeks of age,and to goats living close to cattle, according to Directive 64/432/EEC.At human´s level the disease is included in National Net of Epidemiological Surveillance, according to Directive 2003/99/CE.Control of milk is carried out by Autonomous Communities according to Directive 92/46/EEC, and control of fresh meat production according to Directive 64/433/EEC

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

Spanish programmes for eradication of bovin tuberculosis in last years show the continous decrease of the disease prevalence in cattle. In 2004 herd prevalence was 1.80%(2.14% in 2003), with the 96.54% of herds oficially free(95.77% in 2003). Animal prevalence in 2004 was 0.40%(0.47% in 2003).Raw milk only can be consumed if produced in herds OTF.

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

Only 4 isolates of human cases have been identified as Mycobacterium bovis in 2004, in inunodeficient humans and without transmision between animals and humans.

Recent actions taken to control the zoonoses

Spanish Programme for eradication of bovin tuberculosis 2005
Milk control according to Directive 92/46/EEC
Control of the production of fresh meat according to Directive 64/433/EEC

2.5.2. Tuberculosis in humans

Table 1.2.A Tuberculosis in man - species/serotype distribution

Mycobacterium	Cases	Cases Inc	Autochtone cases	Autochtone Inc	Imported cases	Imported Inc
	4	0	4	0	0	0
M. bovis	4	0	4			
M. tuberculosis						
reactivation of previous cases						

Footnote

S.I.M.

Table 1.2.B Tuberculosis in man - age distribution

Age Distribution	M. bovis		
	All	M	F
<1 year			
1 to 4 years			
5 to 14 years			
15 to 24 years			
25 to 44 years			
45 to 64 years			
65 years and older	3	2	1
Age unknown	1	1	
Total :	4	3	1

2.5.3. Mycobacterium in animals

A. Mycobacterium bovis in Bovine Animals

Monitoring system

Sampling strategy

Sampling strategy is defined in Spanish Programme for eradication of bovine tuberculosis, covering cattle according Directive 64/432/EEC(animals over six week of age)and goats living close to cattle.Test are maken by competent authorities of Autonomous Comunities.At slaughterhouse samples are taken in suspicius animals and in animals with suspicius injures.

Frequency of the sampling

Once a year at least
Premovement test in trashumance

Type of specimen taken

Other: skin test, blood, organs/tissues

Methods of sampling (description of sampling techniques)

In herds intradermal skin test is used in animals over 6 weeks of age (4.676.571 samples)and gamma interferon as supplementary test (3702 samples)
At slaughterhouses organs/tissues are taken from suspicius animals (mainly from herds with OTF status suspended)and from injures found in routine post-mortem examination of animals slaughtered according to Directive 64/433/EEC (4299 samples)

Case definition

IDT:positives and inconclusive results. In OTF herds also M. bovis isolation.
Gamma-interferon: positive results
Organs/tissues:compatible lesions, isolation or positive PCR

Diagnostic/analytical methods used

IDT test, agent isolation, PCR and gamma-interferon following criteria laying down by Annex B of Directive 64/432/EEC

Vaccination policy

Forbiden

Other preventive measures than vaccination in place

Premovemment test
Cleaning and disinfecting of positive holdings
Control of common grazing areas
Investigation of wild live in some regions

Epidemiological investigations in breakdowns

Control program/mechanisms

The control program/strategies in place

Spain has a Programme for Eradication and Monitoring according to Decision 2004/450/EEC and Decision 90/424/EEC
Legal basis of the programe measures is Directive 64/432/EEC

Recent actions taken to control the zoonoses

More frequent testing and pre-movement test
Compulsory slaughtering of all animals in herds with high incidence or repeating positive results
Severe interpretation of tuberculin test
Research into other test methodologies
Reinforce over herd registers at farm level
Epidemiological studies

Suggestions to the Community for the actions to be taken

Research into other test methodologies and improve the existing ones.

Measures in case of the positive findings or single cases

Confirm by isolation of M. bovis
If confirm, lost of OTF status by holding
Epidemiological studies

Notification system in place

Since 1952, at least (Epizootic Diseases Law)
At the moment by Animal Health Law 8/2003

Results of the investigation

Herd prevalence: 1,80%
Animal prevalence: 0,40%
Herd incidence: 1,06%
Herd status: 96,54% OTF

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

Data obtained by applying of Spanish Tuberculosis Eradication and Monitoring Programme show a moderate decrease of the disease in the country,following the trends of last years.
Herd prevalence: 2,24%(2002); 2,14%(2003);1,80% (2004)
Animal prevalence: 0,52%(2002); 0,47%(2003); 0,40%(2004)
Disease is close to eradication in dairy herds. Herd and animal prevalence is below 1% and 0,20% respectively.In conclusion, milk consumption can´t be considered as a current source of infection in Spain,even more if it is assumed that cow milk is thermally treated.

In fattening herds, herd and animal prevalence is 2,1% and 0,50% respectively. Explanation of this higher prevalence can be found in special managemment of this kind of herds: common grazing, ranching systems, fighting bulls, trashumance... Wildlife and goats can also be a source of infection in these holdings.

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

Only 3 of the 1858 isolates of respiratory tuberculosis have been identified as Mycobacterium bovis, the rest were Mycobacterium tuberculosis.

Table 1.1.3 Tuberculosis in animals

	Source of information	Remarks	Epidemiological unit	Units tested	Units positive	M. bovis	M. tuberculosis	Mycobacterium spp.
Goats			ANIMAL	224862	1645	1548		97
Zoo animals			ANIMAL	5	0			
Wildlife								
wild boars								
- surveillance			ANIMAL	28	7	7		
deer								
- surveillance			ANIMAL	12	3	3		
fallow								
- monitoring programme			ANIMAL	34	27	27		
red								
- monitoring programme			ANIMAL	3	3	3		
wild birds								
- monitoring programme			ANIMAL	40	15			15
Solipeds								
horses								
- monitoring programme			ANIMAL	1	0			
Pet animals								
dogs								
- monitoring programme			ANIMAL	2	0			

1.1.1 Bovine tuberculosis - Comunidad de Madrid

MANDATORY	**CATTLE**		
Number of herds under official control:	1681	Number of animals under official control:	93248
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	1663	18	32
New cases notified during the year (b):			18
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	1612		32
Routine tuberculin test (c) - data concerning animals:	91259		111
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	111	111	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Galicia

MANDATORY	**CATTLE**		
Number of herds under official control:	57589	Number of animals under official control:	824362
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	56608	8	266
New cases notified during the year (b):			240
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	57589		266
Routine tuberculin test (c) - data concerning animals:	824362		1104
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	2136	1104	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis

MANDATORY	**CATTLE**		
Number of herds under official control:	154610	Number of animals under official control:	4719713
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	148503	219	2742
New cases notified during the year (b):			1683
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	151723		2735
Routine tuberculin test (c) - data concerning animals:	4676571		18684
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):	2688067		12161
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	21219	17802	3417

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):	3984		

1.1.1 Bovine tuberculosis - Canarias

MANDATORY	**CATTLE**		
Number of herds under official control:	1795	Number of animals under official control:	21767
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	1770	21	43
New cases notified during the year (b):			37
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	1795		43
Routine tuberculin test (c) - data concerning animals:	21767		147
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	154	147	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - La Rioja

MANDATORY	**CATTLE**		
Number of herds under official control:	326	Number of animals under official control:	25315
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	318	2	8
New cases notified during the year (b):			7
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	326		9
Routine tuberculin test (c) - data concerning animals:	25315		36
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):		6	2
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):		2	
Follow-up investigation of suspected cases: trace, contacts (f):		0	
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):	265	0	0
Other routine investigations: tests at AI stations (h):	0	0	0
	All animals	**Positives**	**Contacts**
Animals destroyed (i):	4	4	0
Animals slaughtered (j):	61	36	25
VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Principado de Asturias

MANDATORY	**CATTLE**		
Number of herds under official control:	24212	Number of animals under official control:	409135
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	24138	16	58
New cases notified during the year (b):			48
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	24212		58
Routine tuberculin test (c) - data concerning animals:	409135		349
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	635	349	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - País Vasco

MANDATORY	**CATTLE**		
Number of herds under official control:	8825	Number of animals under official control:	117962
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	8820	4	16
New cases notified during the year (b):			14
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	7250		16
Routine tuberculin test (c) - data concerning animals:	117962		50
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	114	31	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Castilla y León

MANDATORY	**CATTLE**		
Number of herds under official control:	20296	Number of animals under official control:	1085999
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	18908	11	768
New cases notified during the year (b):			519
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	20296		768
Routine tuberculin test (c) - data concerning animals:	1085999		4623
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	5156	4567	
VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Comunidad Valenciana

MANDATORY	**CATTLE**		
Number of herds under official control:	474	Number of animals under official control:	34996
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	348	0	12
New cases notified during the year (b):			3
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	456		12
Routine tuberculin test (c) - data concerning animals:	34866		169
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	169	169	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Región de Murcia

MANDATORY	**CATTLE**		
Number of herds under official control:	224	Number of animals under official control:	27380
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	203	1	17
New cases notified during the year (b):			15
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	224		17
Routine tuberculin test (c) - data concerning animals:	27380		30
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	28	28	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Andalucía

MANDATORY	**CATTLE**		
Number of herds under official control:	8670	Number of animals under official control:	594426
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	7263	0	509
New cases notified during the year (b):			281
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	7565		509
Routine tuberculin test (c) - data concerning animals:	539879		5484
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	5503	5475	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Illes Balears

MANDATORY	**CATTLE**		
Number of herds under official control:	463	Number of animals under official control:	26085
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	445	3	3
New cases notified during the year (b):			3
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	463		3
Routine tuberculin test (c) - data concerning animals:	25437		15
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	53	15	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Cataluña

MANDATORY	**CATTLE**		
Number of herds under official control:	3560	Number of animals under official control:	257084
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	3399	0	69
New cases notified during the year (b):			47
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	3477		62
Routine tuberculin test (c) - data concerning animals:	238130		462
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):	602049	3	3
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):	1283	0	0
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	542	382	160

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Aragón

MANDATORY	**CATTLE**		
Number of herds under official control:	1132	Number of animals under official control:	64074
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	1108	1	23
New cases notified during the year (b):			8
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	1132		23
Routine tuberculin test (c) - data concerning animals:	64074		158
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	321	153	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Cantabria

MANDATORY	**CATTLE**		
Number of herds under official control:	10297	Number of animals under official control:	307208
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	10197	0	145
New cases notified during the year (b):			105
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	10297		145
Routine tuberculin test (c) - data concerning animals:	307208		1237
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	2028	1237	
VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Castilla-La Mancha

MANDATORY	**CATTLE**		
Number of herds under official control:	2212	Number of animals under official control:	203438
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	1972	2	159
New cases notified during the year (b):			20
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	2221		159
Routine tuberculin test (c) - data concerning animals:	236564		2170
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	1651	1566	85

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Extremadura

MANDATORY	**CATTLE**		
Number of herds under official control:	10879	Number of animals under official control:	527045
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	9459	45	606
New cases notified during the year (b):			313
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	10879		606
Routine tuberculin test (c) - data concerning animals:	527045		2521
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	2490	2414	
VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.1 Bovine tuberculosis - Comunidad Foral de Navarra

MANDATORY	**CATTLE**		
Number of herds under official control:	1976	Number of animals under official control:	100189
	OTF bovine herds	**OTF bovine herds with status suspended**	**Bovine herds infected with tuberculosis**
Status of herds at year end (a):	1884	87	7
New cases notified during the year (b):			5
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:	1939		7
Routine tuberculin test (c) - data concerning animals:	100189		18
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):	67	18	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

1.1.2 Tuberculosis in farmed deer

MANDATORY	**FARMED DEER**		
Number of herds under official control:	0	Number of animals under official control:	0
	"OTF" herds	**"OTF" herds with status suspended**	**Herds infected with tuberculosis**
Status of herds at year end (a):			
New cases notified during the year (b):			
	Units tested	**Units suspected**	**Units positive**
Routine tuberculin test (c) - data concerning herds:			
Routine tuberculin test (c) - data concerning animals:			
	Animals slaughtered	**Animals suspected**	**Animals positive**
Routine post-mortem examination (d):			
		Herds suspected	**Herds confirmed**
Follow up of suspected cases in post-mortem examination (e):			
Follow-up investigation of suspected cases: trace, contacts (f):			
	Herds tested	**Herds suspected**	**Herds positive**
Other routine investigations: exports (g):			
Other routine investigations: tests at AI stations (h):			
	All animals	**Positives**	**Contacts**
Animals destroyed (i):			
Animals slaughtered (j):			

VOLUNTARY	**FARMED DEER**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	***M. bovis*isolated**	
Bacteriological examination (m):			

2.6. BRUCELLOSIS

2.6.1. General evaluation of the national situation

A. Brucellosis General evaluation

History of the disease and/or infection in the country

Sanitary importance of brucellosis has been based in the spread of the disease to humans.At the moment brucellosis is still the main direct transmission zoonoses in the world, and in Spain as well, mainly linked to Brucella melitensis.The source of infection for human more frequent have been contacts with goats and sheeps, but raw milk products cosumption have have had historical importance as well.Nowadays brucellosis is considered as a proffesional disease.
In Spain, milk control was carried out at council town´s level since 1908. At the moment is carried out by Autonomous Comunities according to Directive 92/46/EEC, and control of fresh meat production according to Directive 64/433/EEC.
Monitoring and Eradication Programmes in cattle, goats and sheeps didn´t start systematically until beginig of 90´s.Before, human cases had the higest incidence in last thirty years, with arround 8500 cases in middle 80´s.The sistematic application of national programmes has resulted in a continous decrease of the disease in humans, with 589 cases in 2004.At the moment the Programmes are being applied according to Directive 64/432/EEC and Directive 91/68/EEC.
At human level disease is included in National Network of Epedimiology Surveillance, according to Royal Decree 2210/1995.

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

Spanish Programmes for eradication and monitoring of Brucellosis in cattle, goats and sheeps show the continous decreasing, in generall, of the disease prevalence in domestic animals,although this prevalence remains still high. In 2004 herd prevalence was 1.54%(1.45% in 2003)in cattle and 5.12%(5.58% in 2003) in goats and sheeps.Animal prevalence was 0.59%(0.45% in 2003)in cattle and 0.61%(0.87% in 2003) in goats and sheeps.
Raw milk only can be consumed if produced in herds free or officially free.

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

Brucellosis incidence in humans is still high, mainly as a proffesional disease. In 2004 have been communicated 589 brucellosis human cases, with 32 isolates: 8 of B. melitensis and 24 Brucella spp.

Recent actions taken to control the zoonoses

Spanish Programme for eradication of brucellosis in cattle 2005
Spanish Programme foer eradication of brucellosis in goats and sheeps 2005
Milk control in accordance to Directive 92/46/EEC
Control of the production of fresh meat accoording to Directive 64/433/EEC

2.6.2. Brucellosis in humans

Table 2.3.A Brucellosis in man - species/serotype distribution

	Cases	Cases Inc	Autochtone cases	Autochtone Inc	Imported cases	Imported Inc
Brucella	589	0	589	1	0	0
B. abortus						
B. melitensis						
B. suis						
Brucella spp.	589		589	1,6		
occupational cases						

Footnote

ENDSS: Epidemiological Notifiable Surveillance System

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-09-22	Brucella spp.	Autochtone cases	589	589
	Brucella spp.	Autochtone Inc	1,6	1,6

Table 2.3.B Brucellosis in man - age distribution

Age Distribution	B. abortus			B. melitensis			Brucella spp.		
	All	M	F	All	M	F	All	M	F
<1 year									
1 to 4 years									
5 to 14 years							1	1	
15 to 24 years							6	3	3
25 to 44 years							12	9	3
45 to 64 years							9	5	4
65 years and older							2	0	2
Age unknown							2	1	1
Total :	0	0	0	0	0	0	32	19	13

Footnote

SIM : Microbiological information System

2.6.3. Brucella in foodstuffs

2.6.4. Brucella in animals

A. Brucella abortus in Bovine Animals

Monitoring system

Sampling strategy

Sampling strategy is defined in Spanish Programme for eradication of bovine brucellosis, covering cattle acording to Directive 64/432/EEC(animals over one year of age). Test are carried out by competent authorities of Autonomous Comunities.At slaughterhouse samples are taken in suspicius animals, mainly in positive animals coming from free or officially free (suspended estatus) to confirm the disease.

Frequency of the sampling

Twice at year at least
Premovement test

Type of specimen taken

Other: blood, milk, organs/tissues,swabs

Methods of sampling (description of sampling techniques)

In herds, in animals over one year of age Rose Bengal as screening test(4.020.115 samples)or Milk Ring Test or ELISA in milk(2842 samples); and Complement Fixation test(817.044 samples)or ELISA(61350 samples) as confirmation test.As complementary test has been used competition ELISA too.
At slaughterhouses swabs, organs and tissues are taken in suspicius animals,mainly from herds with free or oficially free status suspended(1.676 samples)to isolate Brucella and confirm the infection.

Case definition

Positive result to Rose Bengal confirmed by positive result to Complement Fixation or ELISA.In free or officially free herds Brucella abortus also isolation.
Positive result in Milk Ring Test or Elisa confirmed by serological methods

Diagnostic/analytical methods used

Rose Bengal,agent isolation, blood ELISA, milk ELISA, Milk Ring Test and Complement Fixation test following criteria laying down by Annex B of Directive 64/432/EEC

Vaccination policy

Forbiden in general, but in areas with high incidence vaccination can be authorised with vaccine B-19 or others authorised vaccines(RB-51)according to Directive 64/432/EEC.

Other preventive measures than vaccination in place

Premovemment test
Cleaning and disinfecting of positive holdings
Control of common grazing areas
Investigation of wild live in some regions
Epidemiological investigations in breakdowns

Control program/mechanisms

The control program/strategies in place

Spain has a Progamme for Eradication and Monitoring according to Decision 2004/450/EEC and Decision 90/424/EEC
Legal basis of the programme measures is Directive 64/432/EEC

Recent actions taken to control the zoonoses

More frecuent testing and pre-movement test
Compulsory slaughtering of all animals in herds with high incidence or repeating positive results
Research into other test methodologies
Reinforce over herd registers at farm level
Epidemiological studies

Suggestions to the Community for the actions to be taken

Research into other test methodologies and improve existing ones

Measures in case of the positive findings or single cases

Confirm by complement fixation, and if herd free or officially free,status suspended and if isolation of Brucella abortus, lost of status by holding

Notification system in place

Since 1952, at least(Epizootic Diseases Law)
At the moment by Animal Health Law 8/2003

Results of the investigation

Herd prevalence: 1,54%
Animal prevalence: 0,59%
Herd incidence: 0,96%
Herd status: 94,29% OFB; 2,50% FB

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

Data obtained in applying of Spanish Bovine Brucellosis Eradication and Monitoring Programe in 2004 show a moderate increase of the disease in the country, not following the trends of previous years in herds, but doing it in animal prevalence:
Herd prevalence: 2,30%(2002);1,45%(2003);1,54(2004)

Animal prevalence: 0,39%(2002);0,45%(2003);0,59%(2004)
Disease is close to eradication in dairy herds.Herd prevalence is below 1%(0,68%).In conclusion, milk consumption can´t be considered as a current source of infection in Spain, even more if it is assumed that almost all the cow milk is thermally treated.
In fattening herds, herd prevalence is 1,82%.Explanation of this higher prevalence can be found in special managemment of this type of herds:common grazing, ranching systems,fighting bulls,trashumance...Wildlife can also be a source of infection in these holdings.

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

Brucellosis in humans is linked in Spain mainly to B. mellitensis.

B. Brucella melitensis in Sheep

Status as officially free of ovine brucellosis during the reporting year

Free regions

Canarias by Decision 2001/292/EC

Monitoring system

Sampling strategy

Sampling strategy is defined in Spanish Programme for eradication and monitoring of brucellosis in sheeps and goats, according to Directive 91/68/EEC:
- animals over 6 mounths of age if not vaccined
- animals over 18 mounths of age if vaccined
Test are carried out by competent authorities of Autonomous Comunities. At slaughterhouse samples are taken in suspicius animals, mainly in positive animals coming from free or oficially free(suspended status)to confirm de disease.

Frequency of the sampling

Once a year at least in herd free or officially free
Twice a year at least in non cualificated herds

Type of specimen taken

Other: blood, milk, organs/tissues

Methods of sampling (description of sampling techniques)

In herds, in animals over 6 or 18 mounths of age Rose Bengal as screening test(17.814.384 samples) and Complement Fixation(7.091.537 samples) as confirmation test. As complementary test has been used competion ELISA too.
At slaugterhouses or in holdings swabs,milk, organs or tissues are taken in suspicius animals, mainly from herds with free or officially free status suspended(1421 samples)to isolare Brucella and confirm the infection.

Case definition

Positive result to Rose Bengal confirmed by positive result to Complement Fixation.
In free or officially free herds Brucella melitensis isolation too.

Diagnostic/analytical methods used

Rose Bengal, agent isolation, Complement Fixation test following criteria laying down by Annex C of Directive 91/68/EEC

Vaccination policy

Animals between 3 and 6 months of age (not in officially free herds or free herds that are on the way to obtain oficially free status)
In high incidence areas adults can be vaccined exceptionally to control the spread of the disease to other herds or humans.

Other preventive measures than vaccination in place

Premovement test in trashumance in certain areas
Cleaning and desinfecting of positive holdings
Control of common grazing areas
Epidemiological investigations in breakdowns

Control program/mechanisms

The control program/strategies in place

Spain has a Programme for Eradication and Monitiring according to Decision 2004/450/EEC and Decision 90/424/EEC
Legal basis of the programme measures is Directive 91/68/EEC

Recent actions taken to control the zoonoses

More frecuent testing in non cualificated herds
Compulsory slaughtering of all animals in herds with high incidence or repeating positive results
Research in other test methodologies
Reinforce over herd register at farm level
Epidemiological studies

Suggestions to the Community for the actions to be taken

Research into other test methologies ant into other vaccines

Measures in case of the positive findings or single cases

Confirm by complement fixation, and if herd free or officially free, status suspended and if isolation of Brucella melitensis, lost of status by holding

Notification system in place

Since 1952, at least(Epizootic Diseases Law)
At the moment by Animal Helth Law 8/2003

Results of the investigation

Herd prevalence: 5,12%
Animal prevalence: 0,61%
Herd incidence: 1,73%
Herd status: 48%OF; 39,17% free

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

Data obtained in applying of Spanish Programme for Eradication and Monitoring of Brucellosis in Sheeps and Goats show a moderade but continous decrease of the disease in the country, following the trends of previous years:
Herd prevalence:7,18%(2002);5,58%(2003);5,12%(2004)
Animal prevalence:0,98%(2002);0,87%(2003);0,61%(2004)
Explanation of this still high prevalence can be found in special managemment of this type of animals: ranching systems, common grazing, trashumance...Wildlife can also be a source of infection in these holdings

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

The 32 isolates(SIM)obtained of brucellosis human cases have been identified as Brucella melitensis, mainly caused by direct contant between humans and infected herds, as a professional disease (farmers, veterinary surgeons...).

C. Brucella melitensis in Goat

Status as officially free of caprine brucellosis during the reporting year

Free regions

Canarias by Decision 2001/292/EC

Monitoring system

Sampling strategy

see brucella melitensis in sheeps

Frequency of the sampling

see brucella melitensis in sheeps

Methods of sampling (description of sampling techniques)

see brucella melitensis in sheeps

Case definition

see brucella melitensis in sheeps

Diagnostic/analytical methods used

see brucella melitensis in sheeps

Vaccination policy

see brucella melitensis in sheeps

Other preventive measures than vaccination in place

see brucella melitensis in sheeps

Control program/mechanisms

The control program/strategies in place

see brucella melitensis in sheeps

Recent actions taken to control the zoonoses

see brucella melitensis in sheeps

Suggestions to the Community for the actions to be taken

see brucella melitensis in sheeps

Measures in case of the positive findings or single cases

see brucella melitensis in sheeps

Notification system in place

see brucella melitensis in sheeps

Results of the investigation

see brucella melitensis in sheeps

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

see brucella melitensis in sheeps

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

see brucella melitensis in sheeps

Table 2.1.3 Brucellosis in animals

	Source of information	Remarks	Epidemiological unit	Units tested	Units positive	B. melitensis	B. abortus	B. suis	Brucella spp.
Pigs (1)			animal	45347	0				
Wildlife									
deer (2)	hunting		animal	1690	24	3	20		1
fallow									
- surveillance	hunting		animal	124	3		3		
roe									
- surveillance	hunting		animal	288	2		2		
red									
- surveillance	hunting		animal	356	3	3			
wild boars									
- surveillance - active surveillance	hunting		animal	777	4	3	1		
hares									
- surveillance	hunting		animal	17	0				
mouflon									
- surveillance	hunting		animal	8			2		
mountain goat									
- surveillance	hunting		animal	111	1	1			
antelope									
Cantabrian chamois									
- surveillance	hunting		animal	82	0				
Pyrenean chamois									
- surveillance	hunting		animal	228	1	1			
Barbary sheep									
- surveillance	hunting		animal	25	0				
Pet animals									
dogs			animal	48	11	11			
Solipeds									
horses									
- monitoring programme			animal	3	0				

(1) : official test for cualification of holdings
(2) : AGLUTINACIÓN ATG BRUCELAR POSITIVO

2.1.1 Bovine brucellosis - Illes Balears

MANDATORY	CATTLE		
Number of herds under official control:	463	Number of animals under official control:	21659
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	448	0	0
New cases notified during the year (b):			0
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	463		0
Routine testing (d2) - number of animals tested:	21303		
Routine testing (d3) - number of animals tested individually:	21303		0
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	0	0	

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Canarias

MANDATORY	CATTLE		
Number of herds under official control:	1633	Number of animals under official control:	21767
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	1633	0	0
New cases notified during the year (b):			0
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	1633		0
Routine testing (d2) - number of animals tested:	19536		
Routine testing (d3) - number of animals tested individually:	19536		0
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	0	0	

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis

MANDATORY	CATTLE		
Number of herds under official control:	154248	Number of animals under official control:	4074334
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	142126	290	2330
New cases notified during the year (b):			1449
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	151409		2330
Routine testing (d2) - number of animals tested:	4020115		
Routine testing (d3) - number of animals tested individually:	4019578		23872
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	35727	22337	13390

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):	1686		

2.1.1 Bovine brucellosis - Principado de Asturias

MANDATORY	CATTLE		
Number of herds under official control:	24212	Number of animals under official control:	325087
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	23876	10	45
New cases notified during the year (b):			40
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	24212		45
Routine testing (d2) - number of animals tested:	325087		
Routine testing (d3) - number of animals tested individually:	325087		305
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	920	305	

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - País Vasco

MANDATORY	CATTLE		
Number of herds under official control:	8824	Number of animals under official control:	117325
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	4590	0	8
New cases notified during the year (b):			8
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	7249		8
Routine testing (d2) - number of animals tested:	117325		
Routine testing (d3) - number of animals tested individually:	117325		10
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	10	10	

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - La Rioja

MANDATORY	CATTLE		
Number of herds under official control:	326	Number of animals under official control:	23881
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	325	0	4
New cases notified during the year (b):			4
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):	0	0	0
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	326		4
Routine testing (d2) - number of animals tested:	23881		
Routine testing (d3) - number of animals tested individually:	23881		5
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):	265	0	0
Other routine investigations: tests at AI stations (g):	0	0	0
	All animals	**Positives**	**Contacts**
Animals destroyed (h):	5	5	0
Animals slaughtered (i):			

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Comunidad de Madrid

MANDATORY	CATTLE		
Number of herds under official control:	1681	Number of animals under official control:	87547
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	1655	20	36
New cases notified during the year (b):			24
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	1612		36
Routine testing (d2) - number of animals tested:	87120		
Routine testing (d3) - number of animals tested individually:	87120		255
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	255	255	

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Castilla-La Mancha

MANDATORY	**CATTLE**		
Number of herds under official control:	2239	Number of animals under official control:	172497
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	2035	7	117
New cases notified during the year (b):			35
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	2239		117
Routine testing (d2) - number of animals tested:	172497		
Routine testing (d3) - number of animals tested individually:	172497		1375
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	2923	877	2096

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Cataluña

MANDATORY	CATTLE		
Number of herds under official control:	3560	Number of animals under official control:	201179
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	3425	0	42
New cases notified during the year (b):			37
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	3560		42
Routine testing (d2) - number of animals tested:	201179		
Routine testing (d3) - number of animals tested individually:	201179		619
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):		15	
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):	1283	0	0
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	776	563	213

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Región de Murcia

MANDATORY	**CATTLE**		
Number of herds under official control:	224	Number of animals under official control:	13491
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	206	0	2
New cases notified during the year (b):			2
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	224		2
Routine testing (d2) - number of animals tested:	13491		
Routine testing (d3) - number of animals tested individually:	13491		3
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	3	3	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Andalucía

MANDATORY	CATTLE		
Number of herds under official control:	8670	Number of animals under official control:	593039
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	7779	0	201
New cases notified during the year (b):			157
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	7546		201
Routine testing (d2) - number of animals tested:	539798		
Routine testing (d3) - number of animals tested individually:	539798		1657
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	1704	1655	

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Comunidad Valenciana

MANDATORY	CATTLE		
Number of herds under official control:	465	Number of animals under official control:	28398
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	331	1	5
New cases notified during the year (b):			2
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	431		5
Routine testing (d2) - number of animals tested:	28203		
Routine testing (d3) - number of animals tested individually:	27666		185
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	450	185	

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Extremadura

MANDATORY	CATTLE		
Number of herds under official control:	10879	Number of animals under official control:	500949
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	7915	131	669
New cases notified during the year (b):			414
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	10879		669
Routine testing (d2) - number of animals tested:	500949		
Routine testing (d3) - number of animals tested individually:	500949		8134
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	9679	7692	

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Castilla y León

MANDATORY	**CATTLE**		
Number of herds under official control:	20296	Number of animals under official control:	790176
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	18688	37	689
New cases notified during the year (b):			412
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	20296		689
Routine testing (d2) - number of animals tested:	790176		
Routine testing (d3) - number of animals tested individually:	790176		9790
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	12962	9254	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Aragón

MANDATORY	CATTLE		
Number of herds under official control:	1132	Number of animals under official control:	57662
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	527	1	19
New cases notified during the year (b):			12
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	1132		19
Routine testing (d2) - number of animals tested:	57662		
Routine testing (d3) - number of animals tested individually:	57662		135
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	140	134	

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Comunidad Foral de Navarra

MANDATORY	**CATTLE**		
Number of herds under official control:	1976	Number of animals under official control:	87915
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	1892	83	0
New cases notified during the year (b):			0
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	1939		0
Routine testing (d2) - number of animals tested:	87915		
Routine testing (d3) - number of animals tested individually:	87915		0
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	3	0	

VOLUNTARY	**CATTLE**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Cantabria

MANDATORY	CATTLE		
Number of herds under official control:	10297	Number of animals under official control:	285077
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	10068	0	395
New cases notified during the year (b):			242
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	10297		395
Routine testing (d2) - number of animals tested:	285077		
Routine testing (d3) - number of animals tested individually:	285077		1062
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	4965	1062	

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.1 Bovine brucellosis - Galicia

MANDATORY	CATTLE		
Number of herds under official control:	57371	Number of animals under official control:	748916
	OBF bovine herds	**OBF bovine herds with status suspended**	**Bovine herds infected with brucellosis**
Status of herds at year end (a):	56735	0	98
New cases notified during the year (b):			60
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d1) - data concerning herds:	57371		98
Routine testing (d2) - number of animals tested:	748916		
Routine testing (d3) - number of animals tested individually:	748916		337
		Herds suspected	**Herds confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
Other routine investigations: tests at AI stations (g):			
	All animals	**Positives**	**Contacts**
Animals destroyed (h):			
Animals slaughtered (i):	932	337	

VOLUNTARY	CATTLE		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (k):			
	Herds tested	**Herds suspected**	**Herds positive**
Other investigations: farms at risk (l):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (m):			

2.1.2 Ovine and caprine brucellosis

MANDATORY	SHEEP AND GOATS		
Number of holdings under official control:	127150	Number of animals under official control:	18441523
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	61768	1068	4220
New cases notified during the year (b):			2083
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	120422		6171
Routine testing (d) - data concerning animals:	17814384		110299
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	138003	106893	31110

VOLUNTARY	SHEEP AND GOATS		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):	1421		

2.1.2 Ovine and caprine brucellosis - Galicia

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	27181	Number of animals under official control:	321394
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	27013	0	7
New cases notified during the year (b):			5
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	27181		7
Routine testing (d) - data concerning animals:	321394		17
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	34	17	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Principado de Asturias

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	6487	Number of animals under official control:	91718
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	6190	1	0
New cases notified during the year (b):			0
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	6487		0
Routine testing (d) - data concerning animals:	91718		0
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	2	0	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Cantabria

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	2953	Number of animals under official control:	91965
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	2940	0	31
New cases notified during the year (b):			24
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	2953		31
Routine testing (d) - data concerning animals:	91965		71
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	108	71	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - País Vasco

MANDATORY	SHEEP AND GOATS		
Number of holdings under official control:	3563	Number of animals under official control:	174347
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	5235	6	11
New cases notified during the year (b):			11
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	3556		11
Routine testing (d) - data concerning animals:	174300		13
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	13	13	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Comunidad Foral de Navarra

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	2497	Number of animals under official control:	238774
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	1730	31	3
New cases notified during the year (b):			2
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	2264		3
Routine testing (d) - data concerning animals:	236444		4
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	68	4	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - La Rioja

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	496	Number of animals under official control:	159428
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	408	0	42
New cases notified during the year (b):			17
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	494		42
Routine testing (d) - data concerning animals:	159388		245
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	236	236	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Aragón

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	5649	Number of animals under official control:	1944649
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	0	9	337
New cases notified during the year (b):			66
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	5649		337
Routine testing (d) - data concerning animals:	1944649		7755
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	11705	7697	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Comunidad de Madrid

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	989	Number of animals under official control:	124891
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	65	39	53
New cases notified during the year (b):			25
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	946		53
Routine testing (d) - data concerning animals:	124891		1368
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	2095	2095	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Castilla y León

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	13533	Number of animals under official control:	3739026
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	3462	33	862
New cases notified during the year (b):			521
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	13533		862
Routine testing (d) - data concerning animals:	3739026		13340
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	27180	12031	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Castilla-La Mancha

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	8867	Number of animals under official control:	1773746
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	1819	19	665
New cases notified during the year (b):			0
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	8839		665
Routine testing (d) - data concerning animals:	1773746		13273
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	16502	13273	3229
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Extremadura

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	17270	Number of animals under official control:	3864488
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	1421	200	636
New cases notified during the year (b):			212
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	17270		636
Routine testing (d) - data concerning animals:	3665834		11083
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	12494	9184	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Cataluña

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	3822	Number of animals under official control:	624948
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	421	0	656
New cases notified during the year (b):			255
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	3746		656
Routine testing (d) - data concerning animals:	624948		10250
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):	79	0	0
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	15034	12152	2882
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Comunidad Valenciana

MANDATORY	SHEEP AND GOATS		
Number of holdings under official control:	1986	Number of animals under official control:	426628
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	63	44	281
New cases notified during the year (b):			92
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	1822		281
Routine testing (d) - data concerning animals:	424505		8189
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	8352	8223	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Illes Balears

MANDATORY	SHEEP AND GOATS		
Number of holdings under official control:	3612	Number of animals under official control:	133756
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	3342	0	0
New cases notified during the year (b):			0
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	3612		0
Routine testing (d) - data concerning animals:	131894		0
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	0	0	

VOLUNTARY	SHEEP AND GOATS		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Andalucía

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	20435	Number of animals under official control:	3754293
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	2859	668	2401
New cases notified during the year (b):			740
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	18507		2401
Routine testing (d) - data concerning animals:	3688991		41822
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	41742	39459	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Región de Murcia

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:	3024	Number of animals under official control:	600899
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	14	18	186
New cases notified during the year (b):			113
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	3024		186
Routine testing (d) - data concerning animals:	600899		2869
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	2438	2438	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Ciudad Autónoma de Ceuta

MANDATORY	**SHEEP AND GOATS**		
Number of holdings under official control:		Number of animals under official control:	
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):			
New cases notified during the year (b):			
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:			
Routine testing (d) - data concerning animals:			
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):			
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Ciudad Autónoma de Melilla

MANDATORY	SHEEP AND GOATS		
Number of holdings under official control:		Number of animals under official control:	
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):			
New cases notified during the year (b):			
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:			
Routine testing (d) - data concerning animals:			
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):			
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.1.2 Ovine and caprine brucellosis - Canarias

MANDATORY	SHEEP AND GOATS		
Number of holdings under official control:	4786	Number of animals under official control:	376573
	OBF ovine and caprine holdings	**OBF ovine and caprine holdings with status suspended**	**OBF ovine and caprine holdings infected with brucellosis**
Status of herds at year end (a):	4786	0	0
New cases notified during the year (b):			0
	Animals tested	**Animals suspected**	**Animals positive**
Notification of clinical cases, including abortions (c):			
	Units tested	**Units suspected**	**Units positive**
Routine testing (d) - data concerning holdings:	539		0
Routine testing (d) - data concerning animals:	19792		0
		Holdings suspected	**Holdings confirmed**
Follow-up investigation of suspected cases: trace, contacts (e):			
	Animals tested	**Animals suspected**	**Animals positive**
Other routine investigations: exports (f):			
	All animals	**Positives**	**Contacts**
Animals destroyed (g):			
Animals slaughtered (h):	0	0	
VOLUNTARY	**SHEEP AND GOATS**		
	Animals tested	**Animals suspected**	**Animals positive**
Other investigations: imports (i):			
	Holdings tested	**Holdings suspected**	**Holdings positive**
Other investigations: farms at risk (j):			
	Samples tested	**Brucella isolated**	
Bacteriological examination (k):			

2.7. YERSINIOSIS

2.7.1. General evaluation of the national situation

2.7.2. Yersiniosis in humans

Table 8.3.A Yersiniosis in man - species/serotype distribution

Yersinia	Cases	Cases Inc	Autochtone cases	Autochtone Inc	Imported cases	Imported Inc
	350	0	350	0	0	0
Y. enterocolitica	231		231			
Y. enterocolitica O:3	119		119			
Y. enterocolitica O:9						

Footnote

SIM

Table 8.3.B Yersiniosis in man - age distribution

Age Distribution	Y. enterocolitica			Yersinia spp.			Y. enterocolitica O:3		
	All	M	F	All	M	F	All	M	F
<1 year	84	42	42				31	17	14
1 to 4 years	55	30	25				39	22	17
5 to 14 years	41	26	15				17	8	9
15 to 24 years	5	3	2				1		1
25 to 44 years	20	7	13				4	2	2
45 to 64 years	6	3	3				2		2
65 years and older	3	1	2					0	0
Age unknown	17	8	9				25	16	9
Total :	231	120	111	0	0	0	119	65	54

Footnote

Yersiniosis, 6 cases sex and age unknow.

The following amendments were made :

Date of modification	Zoonose	Line	Column	Old value	New value
2005-09-22	Y. enterocolitica O:3	<1 year	All		31
	Y. enterocolitica O:3	<1 year	M		17
	Y. enterocolitica O:3	<1 year	F		14
	Y. enterocolitica O:3	1 to 4 years	All	39	39
	Y. enterocolitica O:3	1 to 4 years	M	22	22
	Y. enterocolitica O:3	1 to 4 years	F	17	17
	Y. enterocolitica O:3	5 to 14 years	All	17	17
	Y. enterocolitica O:3	5 to 14 years	M	8	8
	Y. enterocolitica O:3	5 to 14 years	F	9	9
	Y. enterocolitica O:3	15 to 24 years	All	1	1
	Y. enterocolitica O:3	15 to 24 years	F	1	1
	Y. enterocolitica O:3	25 to 44 years	All	4	4
	Y. enterocolitica O:3	25 to 44 years	M	2	2
	Y. enterocolitica O:3	25 to 44 years	F	2	2
	Y. enterocolitica O:3	45 to 64 years	All	2	2
	Y. enterocolitica O:3	45 to 64 years	F	2	2

	Y. enterocolitica O:3	Age unknown	All	25	25	
	Y. enterocolitica O:3	Age unknown	M	16	16	
	Y. enterocolitica O:3	Age unknown	F	9	9	
	Y. enterocolitica O:3	65 years and older	M	0	0	
2005-10-11	Y. enterocolitica O:3	65 years and older	F	0	0	

Table 8.3.C Yersiniosis in man - seasonal distribution

Month	Y. enterocolitica	Yersinia spp.	Y. enterocolitica O:3
	Cases	Cases	Cases
January(1)	25		11
February(2)	25		8
March	22		6
April	6		9
May	18		5
June	22		15
July	14		9
August	18		19
September	17		7
October	15		6
November	20		5
December	14		13
not known(3)	15		6
Total :	231	0	119

(1) : Four week 1
(2) : Four week 2
(3) : Four week 13 (week 48 to 52)

Footnote

Four weeks period.

The following amendments were made :

Date of modification	Serovar	Month	Column	Old value	New value
2005-09-22	Y. enterocolitica O:3	January	Cases	11	11
	Y. enterocolitica O:3	February	Cases	8	8
	Y. enterocolitica O:3	March	Cases	6	6
	Y. enterocolitica O:3	April	Cases	9	9
	Y. enterocolitica O:3	May	Cases	5	5

Y. enterocolitica O:3	June	Cases	15	15	
Y. enterocolitica O:3	July	Cases	9	9	
Y. enterocolitica O:3	August	Cases	19	19	
Y. enterocolitica O:3	September	Cases	7	7	
Y. enterocolitica O:3	October	Cases	6	6	
Y. enterocolitica O:3	November	Cases	5	5	
Y. enterocolitica O:3	December	Cases	13	13	
Y. enterocolitica O:3	not known	Cases	6	6	

2.7.3. Yersinia in foodstuffs

Table 8.2 Yersinia enterocolitica in food

	Source of information	Remarks	Epidemiological unit	Sample weight	Units tested	Units positive	Y. enterocolitica	Y. enterocolitica O:3	Y. enterocolitica O:9
Bovine meat									
fresh									
- at slaughter	A				1				
- at retail	AB				30	1	1		
meat products									
- at processing plant	B				1				
- at retail	BC				16				
Pig meat									
fresh									
- at slaughter	B				43				
- at processing plant	B				13				
- at retail	AB				79	7	7		
meat products									
- at processing plant	B				34				
- at retail	BC				103				
Poultry meat									
fresh									
- at slaughter	B				1				
- at processing plant	B				1				
- at retail	AB				125				
Other meat									
fresh									
- at retail	BC				16				
meat products									
- at retail	B				15				
minced meat	A				15				
meat preparation	B				2				
Other processed food products									
prepared dishes	ABC				37				
cow milk									
raw	B				17				
Dairy products	0				0				

Dairy products, not specified	ABC				32				
Fishery products	B				1				

Footnote

(A) Compulsory monitoring programmes.
(B) Voluntary monitoring programmes.
(C) Surveys.
(D) Other procedures of sampling.

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-11-02	Dairy products	Source of information		ABC
	Dairy products	Units tested		32
2005-11-02	Dairy products - Dairy products, not specified	Source of information		ABC
	Dairy products - Dairy products, not specified	Units tested		32
2005-11-02	Dairy products	Source of information	ABC	0
	Dairy products	Units tested	32	0
2005-11-02	Other meat - minced meat	Source of information		A
	Other meat - minced meat	Units tested		15
2005-11-02	Other meat - meat preparation	Source of information		B
	Other meat - meat preparation	Units tested		2

2.7.4. Yersinia in animals

2.8. TRICHINELLOSIS

2.8.1. General evaluation of the national situation

A. Trichinellosis General evaluation

History of the disease and/or infection in the country

First focus of thichinellosis in human was reported in Spain in 1876, in Villar de Arzobispo(Valencia).Following it a Royal Order in 1879 made compulsory the microscopic analisys of every pig carcases.
By Epizootic Law of 1952 triquinellosis was considered as a compulsory declaration disease, with meassures to be taken in origin herds when one or some of theirs animals is positive in a control at slaughter.
Cases has been focused mainly in north and south-west regions of the country. At the moment the monitoring of this zoonosis are laying down in Directive 64/433/EEC, came into force by Royal Decree 147/1993.

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

Incidence of the disease has had a chageable tendency in humans last years: 58 cases in 1998; 13 in 1999; 38 in 2000;44 in 2001;26 in 2002; 39 in 2003;33 in 2004
Sources of infection are mainly associated to the consume of meat and raw meat products of wild boars killer in hunting or pigs slaughtered at home and which carcases has not been examinated post-mortem.In 2003, 68 wild boars and 24 pigs were positive to trichinella examinations.

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

Wild boars killered in huntings and pigs slaughtered at home are the sources of infection for humans in Spain.
Neither wildlife animals nor horses are involved in the epidemiology of the disease in Spain at the moment.

Recent actions taken to control the zoonoses

Compulsory analisys in all slaughtered pigs(at slaughterhouses and at home) and all wild boars killed in hunting and used for human consumption.
Compulsory monitoring of the disease according to article 4 of Directive 2003/99/EEC
Compulsory Declaration Disease in Spain since 1943.

2.8.2. Trichinellosis in humans

Table 4.2.A Trichinellosis in man - species/serotype distribution

Trichinella	Cases	Cases Inc	Autochtone cases	Autochtone Inc	Imported cases	Imported Inc
	33	0	32	0	1	0
Trichinella spp.	33		32		1	

Footnote

ENDSS

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-10-05	Trichinella spp.	Imported cases	1	1

Table 4.2.B Trichinellosis in man - age distribution

Age Distribution	Trichinella spp.		
	All	M	F
<1 year			
1 to 4 years			
5 to 14 years	1	1	
15 to 24 years	9	6	3
25 to 44 years	7	4	3
45 to 64 years	13	11	2
65 years and older			
Age unknown	3	3	
Total :	33	25	8

2.8.3. Trichinella in animals

Table 4.1 Trichinella in animals

	Source of information	Remarks	Epidemiological unit	Animals tested	Animals positive
Pigs (1)	a,b		animal	35707576	4
Solipeds (2)	a		animal	25836	0
Wildlife					
wild boars (3)	b,c		animal	82563	121
foxes (4)	b		animal	139	0
other	b,d		animal	489	0

(1) : digestion artificial technique
(2) : digestion artificial technique
(3) : digestion artifical technique
(4) : digestion artificial technique

Footnote

a) Results of routine post-mortem examination of slaughterhouse.
b) Results of routine post-mortem examination of slaughter at home.
c)Results of routine post-mortem examination of killers animals in hunting.
d) Surveys.

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-11-25	Pigs	Source of information	a	a,b
	Pigs	Animals tested	14282800	35707576
	Pigs	Animals positive	0	4
	Solipeds	Source of information	a	a
	Solipeds	Animals tested	7284	25836
	Wildlife - wild boars	Source of information	b	b,c
	Wildlife - wild boars	Animals tested	1322	82563
	Wildlife - wild boars	Animals positive	7	121
	Wildlife - foxes	Animals tested	106	139
	Wildlife - foxes	Animals positive	0	0
	Wildlife - other	Source of information	b	b,d
	Wildlife - other	Animals tested	143	489

2.9. ECHINOCOCCOSIS

2.9.1. General evaluation of the national situation

A. Echinococcus spp general evaluation

History of the disease and/or infection in the country

Hydatidosis is an endemic disease in Spain, mainly in regions with extensive systems of animal production like Aragón, Castilla-León, Castilla-La Mancha and Extremadura, and with an important decrease of prevalence in others like La Rioja and Navarra.Incidence of the disease in humans is close to 1,07/100.000.
Human hydatidosis has been an Oblygatory Declaration Disease since 1982, year in which were comunicated around 2000 cases.Royal Decree 2210/1995, laying down the National Epidemiologyc Surveillance Network, classify hydatidosis as an endemic disease at regional frame.
In 80´s many regions started to set up a control programme based in control of animal hydatidosis and in general people´s health education and focused in professionals related with animals and at school level. Similar control programmes have been developed in others Authonomous Comunities.
The implementation of these control programmes got good results in the decrease of the incidence of the disease, with 396 human cases in 1996 and 167 in 2003.
In routine post-mortem examination at slaughterhouse in 2003, cystis were detected in 0.67% of sheeps and goats tested.

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

Control programmes in endemic regions got good results in the dicrease of the disease at human level.Main source of infection in Spain is cycle between sheep,dog and humans.

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

Higher incidence values of human cases are situated in regions with the highest census of sheeps and goats.

Recent actions taken to control the zoonoses

Surveillance according to Directive 2003/99/EEC.
Control programmes in endemic regions.
Inclusion in National Epidemiologyc Surveillance Network according to Royal Decree 2210/1996.

2.9.2. Echinococcosis in humans

Table 9.2.A Echinococcosis in man - species/serotype distribution

	Cases	Cases Inc	Autochtone cases	Autochtone Inc	Imported cases	Imported Inc
Echinococcus	150	0	150	0	0	0
E. granulosus	150	0,38	150	0,38		
E. multilocularis(1)						
Echinococcus spp.						

(1) : Cystic echinococosis
4 cases/100000 hab

Footnote

ENDSS

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-09-22	E. granulosus	Cases	150	150
	E. granulosus	Cases Inc	0,38	0,38
	E. granulosus	Autochtone cases	150	150
	E. granulosus	Autochtone Inc	0,38	0,38

Table 9.2.B Echinococcosis in man - age distribution

Age Distribution	E. granulosus			E. multilocularis			Echinococcus spp.		
	All	M	F	All	M	F	All	M	F
<1 year									
1 to 4 years									
5 to 14 years									
15 to 24 years	1	1							
25 to 44 years									
45 to 64 years	3	2	1						
65 years and older	5	2	3						
Age unknown	1	1							
Total :	10	6	4	0	0	0	0	0	0

Footnote

SIM : Microbiological Information System.

2.9.3. Echinococcus in animals

Table 9.1 Echinococcus sp. in animals

	Source of information	Remarks	Epidemiological unit	Units tested	Echinococcus spp.	E. multilocularis	E. granulosus
Cattle (bovine animals)	diagnosis examination			602247	624		
Sheep	diagnosis examination			2116493	1014		230
Goats	diagnosis examination			260926	276		
Pigs	diagnosis examination			14282677	0		
Solipeds	diagnosis examination			7284	5		
Pet animals							
dogs	diagnosis examination			876	0		0
Wildlife							
other	diagnosis examination			1142	0		

2.10. TOXOPLASMOSIS

2.10.1. General evaluation of the national situation

A. Toxoplasmosis general evaluation

History of the disease and/or infection in the country

Toxoplasmosis in production animals has been associated classically to the production of miscarriage.The main source of infection is linked to the contamination of feed by cat faeces, although the use of dung in pasture natural fertilitation has to be considered as an important source of infection for adults.
For humans, there are two main sorces of infection: contact with cats and comsumtion of vegetables, water or animal products, mainly sheep and pig meat.
In 60´s and 70´s studies in some regions of Spain detected prevaleces between 12-45% in sheep; between 11- 42% in pig;and between 14-36%in cattle.
More recent studies seem prevalences between 30-57% in sheep;between 41-62% in pig;and between 25-43% in cattle.
In cats, the incidence founded by private clinics are close to 30%.

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

In 2003, data comunicated by Autonomous Comunities about toxoplasmosis in production animals showed incidence in sheep of 35,4%;19% in cattle and 18% in goats.In humans 96 cases were notified.
Main sources of infection for humans are cats and comsumption of meat insufficientment cooked.

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

More studies need to be developed.

Recent actions taken to control the zoonoses

Surveillance according to Directive 2003/99/EC
Primary prevention of the disease with recommendations to prevent infection during pregnance in humans

2.10.2. Toxoplasmosis in humans

Table 10.2.A Toxoplasmosis in man - species/serotype distribution

Toxoplasma	Cases	Cases Inc
	56	0
Toxoplasma spp.	56	
congenital cases		

Footnote

SIM : Microbiologycal Information System

Table 10.2.B Toxoplasmosis in man - age distribution

Age Distribution	Toxoplasma spp.		
	All	M	F
<1 year			
1 to 4 years			
5 to 14 years	4	3	1
15 to 24 years	17	7	10
25 to 44 years	27	7	20
45 to 64 years	3		3
65 years and older	1		1
Age unknown	4	2	2
Total :	56	19	37

2.10.3. Toxoplasma in animals

Table 10.1 Toxoplasma gondii in animals

	Source of information	Remarks	Epidemiological unit	Units tested	Units positive
Cattle (bovine animals)			animal	297	40
Sheep			animal	1167	352
Goats			animal	18	3
Pet animals					
cats (1)	private clinic		animal	585	189

(1) : CATS seroprevalence(F)

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

Paralytic and furious forms of rabies are described in the second book of the Hunting Agreement in the time of King Alfonso XI(1312-1350).The Royal Assembly of Health publication of 23 November 1786 adopted measures to avoid transmission of rabies controlling movement of dogs and cats.Royal Order of 1863 describes "measures of preservation that one has to follow in each case where the bite has been from a supposed rabid animal" and also set down the measures against rabies in animals, which were to be adopted by Local Authorities.At the beginning of the 20th century the Law of 18 December 1914 and Regulation of 4 June 1915 are approved to prevent the transmission of human rabies.During the 1940s the first statistics on animal rabies appeared(513 dog cases in 1944 and 24 human cases).On 12 May 1947 the Ministry of Agriculture issued a General Order establishing the measures to be taken against rabies and a second Order of 1948 established the norms for animal vaccination and control.During the 1950s the first mass dog vaccination campaigns took place.The Epizootics Law of 20 December 1952 established the general regulations of the anti-rabies programme.
Urban rabies has been the main epidemiologycal form in the history of the disease in Spain, with dogs as reservoir of the infection.
Spain is free of land rabies since 1966, with exception of Ceuta and Melilla, that have a regular notification of cases of rabies by their situation in North Africa, where rabies is endemic.
In penínsular territory an imported focus was reported in 1975 in the province of Málaga by introduction of dogs coming from North Africa. This focus ended in 1977 with 122 animals infected(dogs and cats, and 2 foxes) and one case of human rabies.
Since 1979 only have beed notificated cases of rabies in peninsular territory by EBLV1 in bats(Eptesicus serotinus) of the south and east.

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

Since 1999 in peninsular territory and islands only 10 cases of rabies has been reported, all of them in bats. In Ceuta no new cases has been reported, and 27 in Melilla(26 dogs and 1 horse).In 2004 only one case in Melilla has been reported,in a dog imported from Morocco,then the number of cases of rabies in Spain has to be considered as cero.
These data shows that the main source and risk for the apparition of cases of rabies in Spain is the importation of animals with the infection from Morocco and other countries of North Africa.

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

Since 1975 no human cases has been reported in peninsular territory and island.In Ceuta last cases reported in humans were two Morocco citizens that came infected from their conuntry and were diagnosticated in Ceuta in 1979.

Recent actions taken to control the zoonoses

Compulsory surveillance of the disease according to article 4 of Directive 2003/99/EEC,came into force by Royal Decree 1940/2004.
Compulsory vaccinatión of dogs in 10 autonomous comunities and Ceuta y Melilla. Voluntary in the rest.
Studies including active surveillance of LB-1 in bats.
Information to the citizens about no manipulation of bats.

2.11.2. Lyssavirus (rabies) in animals

A. Rabies in dogs

Monitoring system

Sampling strategy

Sampling strategy is targeted at 3 levels:
1. apparently healthy dogs that injure a person and die into the quarantine(kept under observation) period of 14 days or if the animal is suspected to be rabid(euthanasia).Samples are taken by competent authority
2.dogs and cats imported from third countries not included in part C of Annex II of Council Regulation(EC) 998/2003)need negative results to enter into Spain.If theses animals belong to spanish citizens coming from these third countries samples are taken when arrival to Spain.
3.dogs and cats that are going to travel to United Kingdom, Ireland, Sweeden, Norwey and Malta.Samples are taken by private clinics and analisys performed by National Reference Laboratory

Frequency of the sampling

indeterminated

Type of specimen taken

Other: Brain, Blood

Methods of sampling (description of sampling techniques)

Brain of dead or sacrified animals have to be sent to National Reference Laboratory following a protocol of sending.The sample has to be taken with sterility, be submerged in salinum serum and glicerine in 50% solution and envoided refrigerated quickly.
Blood are taken by private clinics and serum(0,5 ml minimun) have to be sent following a protocol, by a quick transport service refrigerated or frozen.4948 samples have been taken in 2004.

Case definition

FAT positive

Diagnostic/analytical methods used

Other: FAT, ELISA

Vaccination policy

Compulsory vaccination of dogs in 10 regions, Ceuta and Melilla.
Voluntary vaccination of dogs in 5 regions.

Other preventive measures than vaccination in place

Control of animals coming from third countries not included in part C of Annex II of Council Regulation(EC) 998/2003
Identication and registration of dogs.
Pick up of stray dogs by council town authorities.

Control program/mechanisms

The control program/strategies in place

Different regional prevention programmes.
Control of imports and exports according to Council Regulation(EC) 998/2003.

Recent actions taken to control the zoonoses

Imports of third countries not included in part C of Annex II of Council Regulation(EC) 998/2003)

Measures in case of the positive findings or single cases

Oficcial Notification of the disease
Epidemiologic survey
Cases in Spain (Ceuta and Melilla) are imported from third countries

Notification system in place

Since 1952, at least, by Epizootic Law.
At the moment by Animal Health Law 8/2003.

Results of the investigation

One dog imported from Morocco positive in Melilla.

Investigations of the human contacts with positive cases

Two persons injured and five persons with salival contact(lick)
Treatement with Ig or Ig and vaccine

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

Since 2000, 19 dogs and 1 horse where positive, all of them in Melilla.In 2003 only one dog were positive, too in 2004.
The trend of infection in dogs is decreasing by controls of imported dogs, mainly coming from North Africa, that is the principal source of infection in Spain.

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

Since 1975 no autonomous cases of human rabies have occured in Spain.

Table 5.1 Rabies in animals

	Source of information	Remarks	Animals tested	Animals positive
Wildlife				
other	LNR	d	8	0
Pet animals				
dogs	LNR	d,e	479	1
cats	LNR		67	0
other	LNR		0	0

Footnote

d= SURVEY
e= EDO(Compulsory Notifiable Disease)
Dogs: 477(d); 2(e)
the dog positive was a Morocco animal diagnosticated in Melilla
Cats: 65(d); 2(e)

The following amendments were made :

Date of modification	Species	Column	Old value	New value
2005-09-22	Pet animals - dogs	Animals positive	1	0
2005-10-11	Wildlife - other	Animals tested		8
	Wildlife - other	Animals positive		0
2005-10-11	Wildlife - other	Source of information		LNR
	Wildlife - other	Remarks		d
	Pet animals - dogs	Source of information	LNR	LN
	Pet animals - dogs	Animals tested	3748	478
	Pet animals - cats	Animals tested	1177	67
2005-10-11	Pet animals - dogs	Source of information	LN	LNR
2005-10-11	Pet animals - dogs	Remarks		d,e
	Pet animals - dogs	Animals tested	478	479
	Pet animals - dogs	Animals positive	0	1
2005-10-11	Pet animals - other	Animals tested	23	0

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1. E. COLI INDICATORS

3.1.1. General evaluation of the national situation

A. E. coli general evaluation

History of the disease and/or infection in the country

E. coli cause many infections in humans, with intestinal and extra-intestinal forms. In production animals E. coli diseases are very frequent, mainly in newborns or animals few days old of cattle, pork and sheep.Problems are often too in farms of poultry and rabbits.
Several cases and outbreaks of diarrhea for Enteropatogenic E. coli have been detected since 60´s, but these focus have reduced importantly in last decades.Serotypes in rabbits or rumiants are different than human ones.In Spain, the main serotype in rabbits is O103:H2.
E. coli Enterotoxicogenic are more frecuent associated with focus of gastroenteritis in humans, by consume of water and animal products.But predominant human serotypes in Spain(O25:H-;O153:H45;O169:H41) are different than the ones that causes diarrhea in animals. In piglets predominat serotypes are O138:K81:H14;O141:K85ab:H-;O149:K91:H10;O157:H-.

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

In production animals diseases by E. coli are very frequent. Although E. coli strains that cause infections in humans and animals can share many virulence factors, they often show different serotypes.Therefore, E.coli strains patogenic for animals are infrequent to produce infections in humans, but it is proved that animals can be a reservoir of Enteropathogenic E. coli for humans. Enviroment and water can also be a source of infecction.

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

It is very difficult to establish the relevance of findings as sources of infection, because E. coli is a very ubiquitous agent and strains patogenic for animals are infrequent to produce infections in humans.

3.1.2. Antimicrobial resistance in *Escherichia coli* isolates

Table 13.1 Antimicrobial susceptibility testing of E.coli in animals

	E.coli							
	Cattle (bovine animals)		**Pigs**		**Gallus gallus**		**Turkeys**	
Isolates out of a monitoring program			no		no			
Number of isolates available in the laboratory			183		152			
Antimicrobials:	**N**	**%R**	**N**	**%R**	**N**	**%R**	**N**	**%R**
Tetracycline			183	95.6%	152	76.3%		
Amphenicols								
Chloramphenicol			183	30.6%	152	18.4%		
Florfenicol			183	2.2%	152	2.0%		
Cephalosporin								
Cefotaxim			183	0.5%	152	15.1%		
Fluoroquinolones								
Ciprofloxacin			183	3.3%	152	25.7%		
Quinolones								
Nalidixic acid			183	20.8%	152	78.3%		
Trimethoprim			183	66.7%	152	34.9%		
Sulfonamides								
Sulfonamide			183	73.2%	152	57.2%		
Aminoglycosides								
Streptomycin			183	66.1%	152	57.9%		
Gentamicin			183	7.7%	152	8.6%		
Neomycin			183	11.5%	152	14.5%		
Penicillins								
Ampicillin(1)			183	69.9%	152	57.2%		
Number of multiresistant isolates								
fully sensitives			183	2.7%	152	7.9%		
resistant to 1 antimicrobial			183	3.8%	152	9.9%		
resistant to 2 antimicrobials			183	7.1%	152	9.2%		
resistant to 3 antimicrobials			183	12.6%	152	7.9%		
resistant to 4 antimicrobials			183	24.0%	152	11.8%		
resistant to >4 antimicrobials			183	49.7%	152	53.3%		

(1) : Amoxicillin

Table Antimicrobial susceptibility testing of E.coli in Gallus gallus - at slaughter - monitoring programme - quantitative data [Dilution method]

Percentage of resistant isolates (R%) and percentage of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	E.coli
	Gallus gallus - at slaughter - monitoring programme
Isolates out of a monitoring program	no
Number of isolates available in the laboratory	152

Antimicrobials:	**N**	**%R**	**<=0.03**	**0.06**	**0.12**	**0.25**	**0.5**	**1**	**2**	**4**	**8**	**16**	**32**	**64**	**128**	**256**	**512**	**1024**	**2048**	**>2048**	**lowest**	**highest**
Tetracycline	152	76.3%					2.0	10.5	8.6	2.0	0.7	2.0	3.9	22.4	40.8	7.2					0.5	256
Amphenicols																						
Chloramphenicol	152	18.4							1.3	43.4	31.6	5.3	2.6	3.3	4.6	5.9	2.0				2	256
Florfenicol	152	2							7.9	57.9	27.6	4.6	1.3	0.7							2	64
Cephalosporin																						
Cefotaxim	152	15.1	3.9	44.1	31.6	2.6	2.6	2.6	2.0	2.0	8.6										0.03	4
Fluoroquinolones																						
Ciprofloxacin	152	25.7		22.4	3.3	25.0	13.2	7.2	3.3	6.6	6.6	10.5	.7	1.3							0.06	32
Quinolones																						
Nalidixic acid	152	78.3						3.3	11.2	7.2			2.0	11.8	19.1	45.4					0.5	128
Aminoglycosides																						
Gentamicin	152	8.6					19.1	61.2	9.9	0.7	0.7	0.7	3.3	2.0	2.6						0.5	64
Neomycin	152	14.5						30.9	34.2	17.8	1.3	1.3	2.6	5.3	6.6						0.5	64
Penicillins																						
Ampicillin	152	57.2						1.3	13.2	21.1	6.6	0.7		1.3	1.3	2.0	52.6				1	256

The following amendments were made :

Date of modification	Antimicrobial	Column	Old value	New value
2005-11-30	Cefotaxim	0.06	4.1	44.1
	Cefotaxim	0.12	1.6	31.6
	Chloramphenicol	512		2.0

Table Antimicrobial susceptibility testing of E.coli in Pigs - at slaughter - monitoring programme - quantitative data [Dilution method]

Percentage of resistant isolates (R%) and percentage of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	E.coli
	Pigs - at slaughter - monitoring programme
Isolates out of a monitoring program	no
Number of isolates available in the laboratory	183

Antimicrobials:	**N**	**%R**	**<=0.03**	**0.06**	**0.12**	**0.25**	**0.5**	**1**	**2**	**4**	**8**	**16**	**32**	**64**	**128**	**256**	**512**	**1024**	**2048**	**>2048**	**lowest**	**highest**
Tetracycline	183	95.6%					0.5	2.7			1.1	0.5	4.9	31.7	49.2	9.3					0.5	256
Amphenicols																						
Chloramphenicol	183	30.6							1.6	33.9	27.9	6.0	18.0	6.6	2.2	3.8					2	256
Florfenicol	183	2.2							4.4	49.7	35.5	8.2	0.5	0	1.6						2	64
Cephalosporin																						
Cefotaxim	183	0.5	9.8	69.9	19.1	0.5					0.5										0.03	4
Fluoroquinolones																						
Ciprofloxacin	183	3.3		77.6	1.6	6.0	8.7	1.1	1.6	1.1	1.1	1.1									0.06	32
Quinolones																						
Nalidixic acid	183	20.8						6.6	43.7	27.3	1.1	0.5		2.7	6.6	11.5					0.5	128
Aminoglycosides																						
Gentamicin	182	7.7				0.5	27.9	52.5	9.8	0.5	1.1	2.2	2.7	1.6	1.1						0.25	64
Neomycin	183	11.5				0.5	1.1	38.5	40.1	8.2		1.6	4.9	3.3	1.6						0.24	64
Penicillins																						
Ampicillin(1)	183	69.9						1.1	6.6	15.3	4.4	2.7	3.3	1.1	0.5	2.7	62.3				1	256

(1) : Amoxicillin

The following amendments were made :

Date of modification	Antimicrobial	Column	Old value	New value
2005-11-30	Florfenicol	64	1.6	0
	Florfenicol	128		1.6
	Gentamicin	N	183	182

Table 13.7 Breakpoints used for antibiotic resistance testing of E.coli in Animals

Test Method Used

Disc diffusion
Agar dilution
Broth dilution
E-test

Standards used for testing

NCCLS
CASFM

Subject to quality control

Escherichia coli	Standard for breakpoint	Breakpoint concentration (microg/ml)			Range tested concentration (microg/ml)		disk content	breakpoint Zone diameter (mm)		
		Susceptible <=	Intermediate	Resistant >	lowest	highest	microg	Susceptible >=	Intermediate	Resistant <=
Tetracycline										
Amphenicols										
Chloramphenicol										
Florfenicol										
Fluoroquinolones										
Ciprofloxacin										
Enrofloxacin										
Quinolones										
Nalidixic acid										
Trimethoprim										
Sulfonamides										
Sulfonamide										
Aminoglycosides										
Streptomycin										
Gentamicin										
Neomycin										
Kanamycin										
Trimethoprim + sulfonamides										
Cephalosporin										
3rd generation cephalosporins										
Penicillins										
Ampicillin										

Footnote

The E. coli breakpoints used are the same mentioned for Salmonella enterica

4. FOODBORNE OUTBREAKS

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

Table 12. Foodborne outbreaks in humans

Causative agent	General outbreak	Family outbreak	Total Number in persons			Source			Type of evidence	Location of exposure	Contributing factors
			ill	died	in hospital		Suspected	Confirmed			
1	2	3	4	5	6	7			8	9	10
Brucella		3	35		1	Chess=3	1	2	Micro=3		
Campylobacter	4	2	250	0	1	Other=6	3	3	Micro=6		
Escherichia coli											
Salmonella - S. Enteritidis	108	66	2194	8	239	Eggs=96 Others=78	55	119	Micro=163		
Salmonella - S. Typhimurium	2	3	190	0	10	Eggs=3 Other=2		5	Micro=5		
Salmonella - Other serotypes	4	0	64	0	17	Eggs=1 Others=3	1	3	Micro=4		
Pathogenic Escherichia coli - Enterotoxigenic E. coli (ETEC)	1		139	0		puding		1	Micro=1		
Pathogenic Escherichia coli - Enteropathogenic E. coli (EPEC)	1		69	0	2	Other=1		1	Micro=1		
Salmonella - Salmonella spp.	74	69	1680	0	163	Eggs74, Other=69	76	67	Micro=134		
Pathogenic Escherichia coli - Verotoxigenic E. coli (VTEC) - VTEC O 157:H	1		2	0	0		1				

The following amendments were made :

Date of modification	Causative agent	Column	Old value	New value
2005-09-16	S. Enteritidis	General outbreak		108
2005-09-22	Not typeable	General outbreak		74
	Not typeable	Family outbreak		69
	Not typeable	ill		1680
	Not typeable	died		0
	Not typeable	in hospital		163
	Not typeable	Source		Eggs=74 Others=69
	Not typeable	Suspected		76
	Not typeable	Confirmed		67
	Not typeable	Type of evidence		Micro=134
2005-09-22	S. Enteritidis	Family outbreak		66
	S. Enteritidis	ill		2194
	S. Enteritidis	died		8
	S. Enteritidis	in hospital		239
	S. Enteritidis	Source		Eggs=96 Others=78
	S. Enteritidis	Suspected		55

	S. Enteritidis	Confirmed			119
	S. Enteritidis	Type of evidence			Micro=163
2005-09-22	S. Typhimurium	General outbreak			2
	S. Typhimurium	Family outbreak			3
	S. Typhimurium	ill			190
	S. Typhimurium	died			0
	S. Typhimurium	in hospital			10
	S. Typhimurium	Source			Eggs=3 Other=2
	S. Typhimurium	Confirmed			5
	S. Typhimurium	Type of evidence			Micro=5
2005-09-22	Other serotypes	General outbreak			4
	Other serotypes	Family outbreak			0
	Other serotypes	ill			64
	Other serotypes	died			0
	Other serotypes	in hospital			17
	Other serotypes	Source			Eggs=1 Others=3
	Other serotypes	Suspected			1
	Other serotypes	Confirmed			3
	Other serotypes	Type of evidence			Micro=4
2005-09-22	Enterotoxigenic E. coli (ETEC)	General outbreak			1
	Enterotoxigenic E. coli (ETEC)	ill			139
	Enterotoxigenic E. coli (ETEC)	died			0
	Enterotoxigenic E. coli (ETEC)	Source			puding
	Enterotoxigenic E. coli (ETEC)	Confirmed			1
	Enterotoxigenic E. coli (ETEC)	Type of evidence			Micro=1
2005-09-22	Enteropathogenic E. coli (EPEC)	General outbreak			1
	Enteropathogenic E. coli (EPEC)	ill			69
	Enteropathogenic E. coli (EPEC)	died			0
	Enteropathogenic E. coli (EPEC)	in hospital			2
	Enteropathogenic E. coli (EPEC)	Source			Other=1
	Enteropathogenic E. coli (EPEC)	Confirmed			1
	Enteropathogenic E. coli (EPEC)	Type of evidence			Micro=1
2005-09-22	VTEC O 157:H	General outbreak			1
	VTEC O 157:H	ill			2
	VTEC O 157:H	died			0
	VTEC O 157:H	in hospital			0
	VTEC O 157:H	Suspected			1
2005-11-02	Salmonella spp.	General outbreak			74
	Salmonella spp.	Family outbreak			69
	Salmonella spp.	ill			1680
	Salmonella spp.	died			0
	Salmonella spp.	in hospital			163
	Salmonella spp.	Source			Eggs<<<<<<<<<<<<<<<<<074,Other=69
	Salmonella spp.	Suspected			76
	Salmonella spp.	Confirmed			67
	Salmonella spp.	Type of evidence			Micro=134

2005-11-02	Salmonella spp.	Source	Eggs<<<<<<<<<<<<<<<<<<<<074,Other=69	Eggs74, Other=69