ZOONOSES MONITORING

POLAND

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

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

including information on foodborne outbreaks and antimicrobial resistance in zoonotic agents

IN 2005

INFORMATION ON THE REPORTING AND MONITORING SYSTEM

Country: **Poland**

Reporting Year: **2005**

Institutions and laboratories involved in reporting and monitoring:

Laboratory name	Description	Contribution
National Research Institute, Pulawy-Department of Microbiology		16 regional veterinary laboratories reported to NRL-Salmonella results on Salmonella prevalence in foodstuffs, animal and feedstuffs.
National Institute of Hygiene	National Center for Disease Prevention and Control	

PREFACE

This report is submitted to the European Commission in accordance with Article 9 of Council Directive 2003/99/EC[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 Poland during the year 2005. 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.

---

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

LIST OF CONTENTS

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:

Data on the number of herds, in case of cattle was obtained from the Agency for Restructuring and Modernisation of Agriculture; while, data on the herds of other animals were obtained in the District Veterinary Inspectorates. Data sent by the inspectorates are approximate and they refer to the end of 2005.
Data on the number of headage of susceptible animals, in case of cattle was obtained from the Agency for Restructuring and Modernisation of Agriculture; while, data on other animals was obtained in the District Veterinary Inspectorates. Data sent by the inspectorates are approximate and they refer to the end of 2005.
Number of slaughtered animals is a number of animals examined by the official veterinarians in the slaughterhouses. Report RRW-6 for 2005 for the Ministry of Agriculture and Rural Development.

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

2005

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

Definitions used for the purposes of monitoring and eradication of zoonoses are compliant with the definitions determined by the Regulation 178/2002, Regulation 2160/2003 and Directive 2003/99, 64/432, 90/539.

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

The animal population has not been changing for approximately ten years.

Additional information

Legal basis for animal health protection, food and feed
-Act of 29 January 2004 on Veterinary Inspection (OJ No 33, item 287, as amended),
-Act of 29 January 2004 on veterinary requirements for products of animal origin (OJ No 33, item 288),
-Act of 11 March 2004 on animal health protection and control of infectious animal diseases (OJ No 69, item 625)
-Act of 23 August 2001 on feedingstuffs (OJ No 123, item 1350)
Part of zoonoses (tuberculosis, bovine, ovine and caprine, swine brucellosis, TSE and rabies) are subject to obligatory eradication and the other part to obligatory registration (bovine, poultry, swine salmonellosis, trichinellosis and listeriosis).

Table Susceptible animal populations

* Only if different than current reporting year

Animal species	Category of animals	Livestock numbers (live animals)	Year*	Number of slaughtered animals	Year*	Number of herds or flocks	Year*	Number of holdings	Year*
Cattle (bovine animals)	mixed herds	3372999				643656		626742	
	dairy cows and heifers	1429796				240222		235106	
	meat production animals	178013				52834			
	calves (under 1 year)	526028				12482			
	in total	5506836		1138273		949194		927203	
Deer	farmed - in total	2000		1016		133		35	
Ducks	in total	2055000		3003863		57460		34083	
Gallus gallus (fowl)	mixed flocks/holdings	4500000				393795		238100	
	breeding flocks, unspecified - in total	14800000				1205		1000	
	laying hens	7800000				100000		78000	
	broilers	246500000				5000		3000	
	in total	273600000		415882816		500000		320100	
Geese	in total	3800000		4752497		24412		15952	
Goats	in total	21000		20		4310		4310	
Pigs	in total	19970000		17484312		294000		243000	
Sheep	in total	317000		18431		5439		5439	
Solipeds, domestic	horses - in total	152000		37551		81135		69294	
Turkeys	in total	13000000		20623505		16905		15536	
Wild boars	farmed - in total	129				8		8	

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

The analysis of the official control examinations and commissioned examinations carried out indicates that the frequency of the presence Salmonella spp. in foodstuffs of animal origin and feedstuffs is not much different from the situation detected in other EU countries. Poultry plays a major role in spreading contamination among humans.

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

(2005)
Poultry is the main reservoir of Salmonella in Poland, although epidemiological situation in cattle and pigs is not well recognized.
During limited scale of examinations Salmonella was found in 10.76% samples taken from slaughter pigs.
S. Enteritidis predominates in Gallus gallus and it is also observed in other poultry. Species specific S. Choleraesuis occurs in pigs, mostly in clinical cases but S. Typhimurium was the most frequent serovar found in NRL-Salmonella among swine isolates. The most frequent serovars in poultry were: S. Enteritidis, S. Infantis, S. Mbandaka, S. Virchow, S. Hadar, S. Typhimurium, and in pigs S. Typhimurium, S. Derby, S. Bredeney, S. Choleraesuis. Higher Salmonella prevalence was observed in poultry commercial flocks than in breeders. There were differences in Salmonella infection rates in different poultry species. Duck flocks were the most often infected in contrast to lowest infection rate observed in turkey flocks.
Poultry products (raw materials) were the most frequently contaminated by Salmonella. Subsequently, a substantial reduction in Salmonella rate was noted along food processing (5.3% of positive batches tested at slaughter, 0.74% at processing plants, and 0.38% at retail level - data not shown in the report). High Salmonella contamination rate was found in broiler carcasses after slaughter (11.8%), raw broiler meat preparation intended to be eaten cooked (16.62%) and 1.79% of eggs and egg products. It should be pointed out that relatively low Salmonella prevalence was found in the case of pig and bovine carcasses and meat products of thereof.
This fact is connected with good hygienic practices observed in slaughterhouses in Poland and low prevalence (becoming higher) of Salmonella in live pigs.
Other animals were rarely tested and therefore the Salmonella epidemiological situation remained not well recognized. Salmonella was found in 1.00% of food samples examined.
Fortunately no Salmonella was noted in ready to eat broiler and turkey (poultry)? meat products, fish and products of thereof, milk and milk products including cheese. S. Enteritidis predominated in food isolates.
Overall Salmonella was detected in 2.43% batches of animal feedingstuffs (data not shown in the report). Oil seeds (mostly rape, sunflower, and soya) and products of thereof were the most frequently contaminated feed components (4.94% positive batches). Imported feed and feed components were more often Salmonella incriminated than domestic products (5.8% versus 2.42% of positive batches - data not shown in the report). The most frequent serovars isolated

were: Salmonella Typhimurium, Livingstone, Anatum, Cubana, Senftenberg. Among compound feeds the highest percentage of Salmonella positive samples was observed in pet feeds (3.33% positive batches).
In general, NRL-Salmonella found 35 serovars in Salmonella isolated from feedingstuffs, poultry, swine, and food in 2005.

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

The data shows the typical Salmonella infection cycle covering feedingstuffs, animals, and foodstuffs influencing consumers health.

Recent actions taken to control the zoonoses

Salmonella monitoring program in poultry, based on Directive 92/117/EEC, was introduced in July 1999. The program covers egg and meat production both in breeding and commercial flocks of chicken, turkey, geese and ducks. Sampling on the farm environment is voluntary prior settlement and obligatory in laying flocks during rearing and production period as well as before slaughter in broilers. Sampling is done by owners or veterinary officers. The tests are performed in regional veterinary labs. When S. Enteritidis or S. Typhimurium is detected in breeding flock or layers, control measures are introduced. The eggs are kept on holding and no birds may leave the flock until official sampling. If the result is confirmed, official authorities supervise slaughtering of the birds. Eggs from S. Enteritidis and/or S. Typhimurium positive flocks are destroyed or sent to the egg-processing industry to be heat-treated. After the depopulation of the flock the farm is cleaned and disinfected, including safe disposal of manure or litter. However, the approach is not recommended due to the risk of resistance development, Salmonella infected flocks can be treated with antimicrobials and retested on the cost of the owner and on his risk.
Results of the program were not evaluated till establishment of National Reference Laboratory-Salmonella (NRL-Salmonella) in the Department of Microbiology (National Veterinary Research Institute, Pulawy) in 2003.
There is no control programs in other animal species. These animals are tested in the case of clinical problems.
Salmonella reporting system was launched in 2003 and modified in 2004 according to EU recommendations. In 2004 and in 2005 all 16 regional veterinary laboratories reported to NRL-Salmonella results on Salmonella prevalence in foodstuffs, animals and feedstuffs.
(2005)
Methodology:
Regional veterinary laboratories follow ISO-EN 6579 standard which was implemented in Poland as PN ISO EN 6579:2003. The strains isolated all over Poland were sent to National Reference Laboratory for Salmonella for further epidemiological studies.
Baseline studies are performed according to appropriate EU technical specifications.
Antimicrobial resistance in Salmonella was performed with microbroth dilution method and E. coli was tested using disc diffusion method. The tests were performed and the results were interpreted according to CLSI (formerly - NCCLS) recommendations.

Additional information

The results of tests for detection of animal diseases and their pathogens, presented in the report, come from control examinations within the frame of the official supervision and commissioned

tests performed by the above-mentioned state regional laboratories within the frame of internal control of plants producing foodstuffs of animal origin and feedstuffs.

Salmonella in foodstuffs-the monitoring of Salmonella in meat products, milk and egg products

For minced meat and raw meat products (Journal of Laws 2004.132.1419):

1.The examinations are conducted once a day on the day on which the production of minced meat intended for trade is carried;

2.The examination of minced meat and fresh meat products and fresh sausages and sausage meat intended for other markets is conducted once a week;

3.The examinations are carried in a laboratory on the premises of authorized plant or in an authorized laboratory (approved by the district veterinary officer),

4.In the case of raw meat products, a single sample shall be taken from deep muscles, having first singed the skin or surface of meat

5.For an examination 5 single samples shall be taken of the products produced on a given day, and they are considered as being representative for the entire daily production;

7.Sample taking (according to the requirements of the national reference laboratory).

8.Salmonella absent in 10 g of minced meat and raw meat products from minced meat, except for fresh sausages and sausage meat;

9.Salmonella absent in 1 g of other fresh meat products;

For milk (Journal of Laws, 2002.117.1011)

1.Raw milk intended for human consumption:

2.Absent in 25 g, 5 samples shall be taken

3.For pasteurized milk:

4.Absent in 25 g, 5 samples shall be taken

5.For dairy products:

6.Absent in 1 g, 5 samples shall be taken;

7.In case of powdered milk, 10 samples shall b taken, absent in 1 g;

For egg products (Journal of Laws, 2004.52.521):

1.10 samples are taken;

2.Absence in 25 g;

Salmonella in feedingstuffs:

The feeding stuffs for poultry and other animals must be free from Salmonella. The samples of feeding stuffs are sent for testing also by the owners of poultry farms.

Veterinary Inspection conducts random, regular inspection in feeding stuffs production plants, in particular of microbiological standards, types of internal controls used by the owners of these plants to guarantee the appropriate quality of final product. In addition, it was foreseen that within the National Plan for the official control of animal feedstuffs in the scope of the supervision of Veterinary Inspection every year, 3500 samples are going to be randomly taken from the feedstuffs production plants, holdings and trading and tested for salmonella.

Operators duties in case of detection of inappropriate microbiological quality of product

1.notifying the District Veterinary Officer on the results of sample testing and the batch of products from which they were taken

2.secondary processing of contaminated batch, according to an indicated method, under supervision of Veterinary Inspection

3.increasing the frequency of sampling

4.verifying the origin and the indications of raw materials used in production

5.conducting appropriate cleaning and disinfecting of technical equipment

2.1.2. Salmonella in foodstuffs

Table Salmonella in poultry meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Meat from broilers (Gallus gallus)								
fresh	NRLsalm	batch	unknown	537	63			63
minced meat								
intended to be eaten cooked	NRLsalm	batch	unknown	34	1			1
meat products								
raw but intended to be eaten cooked	NRLsalm	batch	unknown	349	58			58
cooked, ready-to-eat	NRLsalm	batch	unknown	115	0			
Meat from turkey								
fresh	NRLsalm	batch	unknown	193	14			14
minced meat								
intended to be eaten cooked	NRLsalm	batch	unknown	407	25			25
meat products								
raw but intended to be eaten cooked	NRLsalm	batch	unknown	60	2			2
cooked, ready-to-eat	NRLsalm	batch	unknown	168	0			
Meat from poultry, unspecified								
- at slaughterhouse - domestic production - Surveillance - official controls (other than control and eradication programmes)	NRL salm	batch	unknown	314	18			18
minced meat								
- at processing plant	NRL salm	batch	unknown	20	3			3
meat products								
raw but intended to be eaten cooked								

- at processing plant - domestic production - Surveillance - official controls (other than control and eradication programmes)	NRL salm	batch	unknown	88	1			1
cooked, ready-to-eat								
- at processing plant - Surveillance	NRL salm	batch	unknown	363	3			3

Table Salmonella spp. in milk and dairy products

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Milk, cows'								
raw milk for manufacture								
intended for manufacture of pasteurised/UHT products	NRL-salm	batch	unknown	173	0			
pasteurised milk	NRL-salm	batch	unknown	538	0			
Cheeses made from cows' milk	NRL salm	batch	unknown	1572	0			
Dairy products (excluding cheeses)								
butter								
made from raw or low heat-treated milk	NRL salm	batcg	unknown	392	0			
milk powder and whey powder	NRL salm	batch	unknown	1142	0			
ice-cream	NRL salm	batch	unknown	209	0			

Table Salmonella in red meat and products thereof

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Meat from pig								
fresh	NRL-Salm	batch	unknown	1153	30			30
minced meat								
intended to be eaten cooked	NRL-Salm	batch	unknown	3820	24			24
meat preparation								
intended to be eaten cooked	NRL-Salm	batch	unknown	1756	21			21
meat products								
cooked, ready-to-eat	NRL-Salm	batch	unknown	7561	12			12
Meat from bovine animals								
fresh	NRL-Salm	batch	unknown	831	18			18
minced meat								
intended to be eaten cooked	NRL-Salm	batch	unknown	1219	9			9
meat preparation								
intended to be eaten cooked	NRL-Salm	batch	unknown	152	0			
meat products								
cooked, ready-to-eat	NRL-Salm	batch	unknown	131	0			
Meat, mixed meat								
- at processing plant - Surveillance - HACCP or own checks by industry	NRL salm	batch	unknown	2379	6			6
Meat, red meat (meat from bovines, pigs, goats, sheep, horses, donkeys, bison and water buffalos)								
carcass								
- at slaughterhouse - Surveillance - official controls (other than control and eradication programmes)	NRL salm	batch	unknown	26	0			

Table Salmonella spp. in other food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Eggs								
table eggs								
- at packing centre	NRL salm	batch	unknown	401	5			5
- at retail	NRL salm	batch	unknown	480	11			11
raw material (liquid egg) for egg products	NRL salm	batch	unknown	36	0			
Egg products	NRL salm	batch	unknown	142	3			3
Fish	NRL salm	batch	unknown	174	0			
Other food	NRLsalm	batch	unknown	5134	12			12

2.1.3. 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)

The sampling is the part of a permanent monitoring scheme and it is performed by official veterinarians in the hatcheries or by farmers in the farms.
(2005)
Salmonella control program in breeding flocks of Gallus gallus is under construction according to Regulation No 2160/2003.

Laying hens flocks

Sampling is the part of a permanent monitoring scheme and it is performed by official veterinarians or farmers in the farms.

Frequency of the sampling

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

Other: voluntary

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

Other: at age of 4 weeks; 1-2 weeks prior to moving;

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

Other: every 4 weeks and 1-2 weeks prior to slaughter

Laying hens: Day-old chicks

Other: voluntary

Laying hens: Rearing period

Other: 2 weeks prior to moving

Laying hens: Production period

Every 15-20 weeks

Laying hens: Before slaughter at farm

1-2 weeks prior to slaughter

Type of specimen taken

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

Other: meconium; internal linings of delivery boxes, swabs of delivery boxes

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

Other: feaces; or socks/boot swabs

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

Other: feaces; or socks/boot swabs

Laying hens: Day-old chicks

Other: meconium; internal linings of delivery boxes, swabs of delivery boxes

Laying hens: Rearing period

Other: feaces; or socks/boot swabs

Laying hens: Production period

Other: feaces; or socks/boot swabs

Laying hens: Before slaughter at farm

Other: feaces; or socks/boot swabs

Methods of sampling (description of sampling techniques)

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

Directive 92/117/EEC

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

Directive 92/117/EEC

Breeding flocks: Production period

Directive 92/117/EEC

Laying hens: Day-old chicks

Directive 92/117/EEC

Laying hens: Rearing period

Directive 92/117/EEC

Laying hens: Production period

Directive 92/117/EEC

Laying hens: Before slaughter at farm

Directive 92/117/EEC

Case definition

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

A flock is an epidemiological unit.
Definition of a case:
A positive case is a flock, where positive result in laboratory tests for detection of Salmonella was confirmed.

Diagnostic/analytical methods used

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

Bacteriological method: ISO 6579:2002

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

Bacteriological method: ISO 6579:2002

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

Bacteriological method: ISO 6579:2002

Laying hens: Day-old chicks

Bacteriological method: ISO 6579:2002

Laying hens: Rearing period

Bacteriological method: ISO 6579:2002

Laying hens: Production period

Bacteriological method: ISO 6579:2002

Laying hens: Before slaughter at farm

Bacteriological method: ISO 6579:2002

Laying hens: At slaughter

Bacteriological method: ISO 6579:2002

Eggs at packing centre (flock based approach)

Bacteriological method: ISO 6579:2002

Control program/mechanisms

The control program/strategies in place

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

In Poland reproductive poultry flocks, flocks of poultry intended for slaughter and high-production flocks are monitored for detection of species-specific and species non-specific salmonella from July 1999, on the basis of the instruction of Chief Veterinary Officer-based on the Directive 92/117.
-IW.z. II D/Sal-1/99- on eradication of salmonellosis in reproduction poultry herds
-IW.z. II D/Sal-2/99- on eradication of salmonellosis in poultry herds intended for slaughter
-IW.z. II D/Sal-3/99- on eradication of salmonellosis in high-production poultry herds
The results of examinations of all poultry species intended for slaughter and the date of examination had to be indicated in health certificates accompanying the dispatches of birds to a slaughterhouse.

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

In 2004, Salmonella was found in 14% and 9% of, respectively, breeding and lying flocks. S. Enteritidis was found in 52% of positive breeding flocks and 40% of layers. Group O:7 (including Virchow and Infantis) was found in 31% of positive laying flocks and less frequent in breeding flocks (9%). Typhimurium and other O:4 serovars were rarely found in egg production line (none in the case of breeders and 6% of lying flocks).
In 2005, Salmonella was found in 4.6% and 8.8% of, respectively, breeding and lying flocks. S. Enteritidis was noted in 43.4% of positive breeding flocks and 47.6% of layers. Group C1-C2 (including S. Virchow, S. Hadar, and S. Infantis) was found in 31.7% of positive laying flocks and more frequent in breeding flocks (38.2%). S. Typhimurium and other O:4 serovars were rarely found in egg production line (6.6% - 7.8%).

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 is the part of a permanent monitoring scheme and it is performed by the official veterinarians or the farmers. The samples are taken in the hatcheries or in the farms.
(2005)
Salmonella control program in breeding flocks of Gallus gallus is under construction according to Regulation No 2160/2003.

Broiler flocks

Obligatory sampling is performed by the official veterinarians or the farmers. The samples are taken in the farms.

Frequency of the sampling

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

Other: at the first day in the farm

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

Other: at the age of 4 weeks; 2 weeks prior to moving

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

Every 4 weeks

Broiler flocks: Day-old chicks

Other: at the first day in the farm

Broiler flocks: Before slaughter at farm

1-2 weeks prior to slaughter

Type of specimen taken

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

Other: maconium or internal linings of delivery boxes or swabs of delivery boxes

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

Other: feaces or socks/boot swabs

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

Other: feaces or socks/boot swabs

Broiler flocks: Day-old chicks

Other: maconium or internal linings of delivery boxes or swabs of delivery boxes

Broiler flocks: Before slaughter at farm

Other: feaces or socks/boot swabs

Methods of sampling (description of sampling techniques)

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

Directive 92/117/EEC

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

Directive 92/117/EEC

Breeding flocks: Production period

Directive 92/117/EEC

Broiler flocks: Day-old chicks

Directive 92/117/EEC

Broiler flocks: Before slaughter at farm

Directive 92/117/EEC

Case definition

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

A positive case is a flock, where positive result in laboratory tests for detection of Salmonella was confirmed.

Diagnostic/analytical methods used

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

Bacteriological method: ISO 6579:2002

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

necessary): Rearing period

Bacteriological method: ISO 6579:2002

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

Bacteriological method: ISO 6579:2002

Broiler flocks: Day-old chicks

Bacteriological method: ISO 6579:2002

Broiler flocks: Before slaughter at farm

Bacteriological method: ISO 6579:2002

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

In 2004, Salmonella was found in 5% and 8% of, respectively, breeding and broiler flocks. S. Enteritidis was found in 65% of positive breeding flocks and 45% of broilers. Other serovars/serogroups were rarely reported in breeders, but Hadar, Virchow and Infantis were noted. Group O:7 (including Virchow and Infantis) was found in 27% of positive broiler flocks. Typhimurium and other O-4 serovars were noted in 4% each.
In 2005,Salmonella was found in 5.0% and 9.4% of, respectively, breeding and broiler flocks. S. Enteritidis was found in 40.0% of positive breeding flocks and 28.5% of broilers. S. Hadar, S. Virchow, S. Infantis and S. Typhimurium were more frequently observed in meat production line than in layers.

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

Monitoring system

Sampling strategy

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

Sampling is performed by official veterinarian or farmers, based on directive 92/117/EEC

Meat production flocks

The sampling 1-2 weeks prior to slaughter

Frequency of the sampling

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

Other: At the first day in the farm

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

Other: based on dir. 92/117/EEC

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

Other: based on dir. 92/117/EEC

Meat production flocks: Day-old chicks

Other: based on dir. 92/117/EEC

Meat production flocks: Rearing period

Other: based on dir. 92/117/EEC

Meat production flocks: Before slaughter at farm

1-2 weeks prior to slaughter

Type of specimen taken

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

Other: Dir.92/117/EEC

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

Other: Dir.92/117/EEC

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

Other: Dir.92/117/EEC

Meat production flocks: Day-old chicks

Other: Dir.92/117/EEC

Meat production flocks: Before slaughter at farm

Other: Dir.92/117/EEC

Diagnostic/analytical methods used

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

Bacteriological method: ISO 6579:2002

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

Bacteriological method: ISO 6579:2002

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

Bacteriological method: ISO 6579:2002

Meat production flocks: Day-old chicks

Bacteriological method: ISO 6579:2002

Meat production flocks: Before slaughter at farm

Bacteriological method: ISO 6579:2002

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

In 2004,Salmonella was found in 3% and 9% of, respectively, breeding and meat production turkey flocks. 41% of the isolates remained unrecognized. Enteritidis was found in 6% of positive turkey flocks (breeding and meat production). Typhimurium and other O-4 serovars were noted in 9% and 29%, respectively. 15% of Salmonella positive flocks were infected with group O:7 serovars.
In 2005, Salmonella was found in 2,1% and 8,1% of, respectively, breeding and meat production turkey flocks.S.Enteritidis was observed in 15,4% and 6,0% of, respectively,turkey breeding and meat production flocks. Majority of turkey isolates belonged to serogroups 0:4 and C1-C2.

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

Monitoring system

Sampling strategy

Breeding flocks

Based on Directive 92/117/EEC

Frequency of the sampling

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

Other: at the first day in the farm

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

Other: dir.92/117

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

Other: dir.92/117

Meat production flocks: Day-old chicks

Other: dir.92/117

Meat production flocks: Before slaughter at farm

Other: dir.92/117

Type of specimen taken

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

Other: dir.92/117

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

Other: dir.92/117

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

Other: dir.92/117

Meat production flocks: Day-old chicks

Other: dir.92/117

Meat production flocks: Before slaughter at farm

Other: dir.92/117

Methods of sampling (description of sampling techniques)

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

dir.92/117

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

dir.92/117

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

dir.92/117

Meat production flocks: Day-old chicks

dir.92/117

Meat production flocks: Before slaughter at farm

dir.92/117

Case definition

Breeding flocks: Day-old chicks

A positive case is the flock, where positive results in laboratory tests for detection of Salmonella was confirmed

Diagnostic/analytical methods used

Breeding flocks: Day-old chicks

Bacteriological method: ISO 6579:2002

Breeding flocks: Rearing period

Bacteriological method: ISO 6579:2002

Breeding flocks: Production period

Bacteriological method: ISO 6579:2002

Meat production flocks: Day-old chicks

Bacteriological method: ISO 6579:2002

Meat production flocks: Rearing period

Bacteriological method: ISO 6579:2002

Meat production flocks: Before slaughter at farm

Bacteriological method: ISO 6579:2002

Meat production flocks: At slaughter (flock based approach)

Bacteriological method: ISO 6579:2002

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

In 2004, Salmonella was found in 1% and 7% of, respectively, breeding and meat production geese flocks. 33% of the isolates remained unrecognized. Enteritidis and Typhimurium was found, respectively, in 26% and 21% of positive flocks (breeding and meat production). Group O:7 and O:4 were noted in 10% each.
In 2005, Salmonella was found in 3,4% and 10,1% of, respectively, breeding and meat

production geese flocks. Serogroups 0:4, C1-C2 predominated in geese isolates. They were observed, respectively in 38,5% and 35,9% of geese breeding flocks as well 27,5% and 47,5% of meat production flocks.

E. Salmonella spp. in ducks - breeding flocks and meat production flocks

Monitoring system

Sampling strategy

Breeding flocks

Salmonella monitoring program in poultry, based on Directive 92/117/EEC.

Meat production flocks

The sampling 1-2 weeks prior to slaughter

Frequency of the sampling

Breeding flocks: Day-old chicks

Other: at the first day in the farm

Breeding flocks: Rearing period

Other: dir.92/117

Breeding flocks: Production period

Other: dir.92/117

Meat production flocks: Day-old chicks

Other: dir.92/117

Meat production flocks: Before slaughter at farm

2 weeks prior to slaugter weeks prior to slaughter

Type of specimen taken

Breeding flocks: Day-old chicks

Other: dir.92/117

Breeding flocks: Rearing period

Other: dir.92/117

Meat production flocks: Day-old chicks

Other: dir.92/117

Meat production flocks: Before slaughter at farm

Other: dir.92/117

Methods of sampling (description of sampling techniques)

Breeding flocks: Day-old chicks

dir.92/117/EEC

Breeding flocks: Rearing period

dir.92/117/EEC

Breeding flocks: Production period

dir.92/117/EEC

Meat production flocks: Day-old chicks

dir.92/117/EEC

Meat production flocks: Before slaughter at farm

dir.92/117/EEC

Case definition

Breeding flocks: Day-old chicks

A flock is an epidemiological unit.
Definition of a case:
A positive case is a flock, where positive result in laboratory tests for detection of Salmonella was confirmed.

Breeding flocks: Rearing period

A flock is an epidemiological unit.
Definition of a case:
A positive case is a flock, where positive result in laboratory tests for detection of Salmonella was confirmed.

Breeding flocks: Production period

A flock is an epidemiological unit.
Definition of a case:
A positive case is a flock, where positive result in laboratory tests for detection of Salmonella was confirmed.

Meat production flocks: Before slaughter at farm

A flock is an epidemiological unit.
Definition of a case:

A positive case is a flock, where positive result in laboratory tests for detection of Salmonella was confirmed.

Diagnostic/analytical methods used

Breeding flocks: Day-old chicks

Bacteriological method: ISO 6579:2002

Breeding flocks: Rearing period

Bacteriological method: ISO 6579:2002

Breeding flocks: Production period

Bacteriological method: ISO 6579:2002

Meat production flocks: Day-old chicks

Bacteriological method: ISO 6579:2002

Meat production flocks: Rearing period

Bacteriological method: ISO 6579:2002

Meat production flocks: Before slaughter at farm

Bacteriological method: ISO 6579:2002

Control program/mechanisms

The control program/strategies in place

Breeding flocks

Based on Directive 92/117/EEC

Meat production flocks

On the basis of the instruction of Chief Veterinary Officer -
-IW.z. II D/Sal-2/99- on eradication of salmonellosis in poultry herds intended for slaughter
-IW.z. II D/Sal-3/99- on eradication of salmonellosis in high-production poultry herds

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

In 2004, Salmonella was found in 8% and 16% of, respectively, breeding and meat production duck flocks. 52% of the isolates remained unrecognized. S.Enteritidis and S.Typhimurium was found, respectively, in 15% and 12% of positive flocks (breeding and meat production). Group O:4 and O:7 were noted respectively in 13% and 8% of positive flocks.
In 2005, Salmonella was found in 7,2% and 16 % of, respectively, breeding and meat production duck flocks. S.Enteritidis and S.Typhimurium were found in several percent of

flocks(range 3,4%-20,0%) and the remaining isolates mainly belonged to group C1-C2.

Additional information

The results of examinations of all poultry species intended for slaughter and the date of examination had to be indicated in health certificates accompanying the dispatches of birds to a slaughterhouse.

F. Salmonella spp. in pigs

Monitoring system

Sampling strategy

Breeding herds

There is no Salmonella monitoring program in pigs.

Multiplying herds

There is no Salmonella monitoring program in pigs.

Fattening herds

There is no Salmonella monitoring program in pigs.

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

The collected data are not representative for the population.
In 2004, Salmonella was found in 3% of tested animals (N=1068). Nine serovars were found in pig isolates in NRL-Salmonella. The most prevalent were Typhimurium, Choleraesuis and Bredeney.
In 2005, Salmonella was found in 9,9% of tested herds (N=372). Twelve serovars,including S. Choleresuis were found in pig isolates in NRL-Salmonella. The most prevalent was S.Typhimurium.

G. Salmonella spp. in bovine animals

Monitoring system

Sampling strategy

There is no Salmonella monitoring program in cattle. The collected data are not representative for the population.
In 2004, Salmonella was found in 3% of tested animals (N=297).
In 2005, Salmonella was found in 4,2% of tested animals(N=238)

Table Salmonella in breeding flocks of Gallus gallus

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Gallus gallus (fowl)							
parent breeding flocks for egg production line	a	flock	230	32	12	4	16
day-old chicks	a	flock	20	2	1		1
during rearing period	a	flock	74	17	6	1	10
during production period	a	flock	136	13	5	3	5
grandparent breeding flocks for meat production line	a	flock	4	0			
parent breeding flocks for meat production line	a	flock	849	80	43	5	32
day-old chicks	a	flock	89	10	2		8
during rearing period	a	flock	349	19	8	2	9
during production period	a	flock	411	51	33	3	15
parent breeding flocks, unspecified	a	flock	122	12	8	3	1
day-old chicks	a	flock	24	1	1		
during rearing period	a	flock	31	6	4	2	
during production period	a	flock	67	5	3	1	1

Footnote

a- Veterinary Inspection

Table Salmonella in other poultry

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Gallus gallus (fowl)							
laying hens (1)							
during rearing period (2)		flock	1004	100	57	1	42
during production period (3)		flock	1865	152	64	2	86
sampling in the framework of the laying hen baseline study							
- at farm - environmental sample		flock	344	253	196	7	150
broilers (4)							
day-old chicks		flock	3893	498	212	7	279
during rearing period		flock	16180	1389	325	49	1015
unspecified (5)							
day-old chicks		flock	564	43	26	3	14
during rearing period		flock	300	24	18	1	5
during production period		flock	394	18	10		8
Ducks (6)							
breeding flocks		flock	208	15	2	3	10
meat production flocks		flock	568	87	9	3	75
Geese (7)							
breeding flocks		flock	1159	39	10	12	17
meat production flocks		flock	2377	240	25	22	193
Turkeys (8)							
breeding flocks		flock	1220	26	4		22
meat production flocks		flock	4952	400	24	59	317

(1) : The same flock could have been tested several times during the reporting
(2) : The same flock could have been tested several times during the reporting
(3) : The same flock could have been tested several times during the reporting
(4) : The same flock could have been tested several times during the reporting
(5) : The same flock could have been tested several times during the reporting
(6) : The same flock could have been tested several times during the reporting
(7) : The same flock could have been tested several times during the reporting
(8) : The same flock could have been tested several times during the reporting

Footnote

The same flock could have been tested several times during the reporting year
a-several serovars were isolated from the same flock
b-including hatching eggs and dead in shell chicken

Table Salmonella in other birds

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Pigeons (1)	NRL salm	animal	427	22	1	15	6
Guinea fowl	NRL salm	flock	8	0			
Quails	NRL salm	flock	11	0			
Pheasants (2)	NRL salm	flock	54	9	2	1	6
Ostriches	NRL salm	flock	201	9	1		8
Other animals (3)	NRL salm	flock	67	2		1	1

(1) : Carrier pigeons (N/N tests/positive)299/19 and pigeons 128/3
(2) : including 5 wild pheasants-all negative
(3) : wild birds-unspecified

Table Salmonella in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Cattle (bovine animals)							
calves (under 1 year)	NRLsalm	animal	86	5	4		1
adult cattle over 2 years	NRLsalm	animal	134	4	3		1
Sheep	NRLsalm	animal	17	0			
Goats	NRLsalm	animal	1	1	1		
Pigs							
breeding animals	NRLsalm	animal	28	0			
fattening pigs	NRLsalm	animal	344	37	5	6	26
Solipeds, domestic	NRLsalm	animal	11	0			
Dogs	NRLsalm	animal	309	2		1	1
Cats	NRLsalm	animal	53	2	1		1
Minks	NRLsalm	animal	19	2	1		1
Chinchillas	NRLsalm	animal	23	3	1		2

2.1.4. Salmonella in feedingstuffs

Table Salmonella in feed material of animal origin

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Enteritidis	S. Typhimurium	Salmonella spp., unspecified
Feed material of land animal origin								
dairy products	a	batch	unknown	503	5			
meat meal	a	batch	unknown	8	0			
meat and bone meal	a	batch	unknown	535	18			18
bone meal	a	batch	unknown	53	0			
poultry offal meal	a	batch	unknown	202	11			11
feather meal	a	batch	unknown	23	0			
blood meal	a	batch	unknown	40	0			
animal fat	a	batch	unknown	40	0			
Feed material of marine animal origin								
fish meal	a	batch	unknown	288	2			2
fish oil	a	batch	unknown	2	0			
fish silage	a	batch	unknown	2	0			
other fish products	a	batch	unknown	33	0			

Footnote

a- NRL salm

Table Salmonella in other feed matter

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Typhimurium	S. Enteritidis	Salmonella spp., unspecified
Feed material of cereal grain origin								
barley derived	a	batch	unknown	408	1			1
wheat derived	a	batch	unknown	278	3			3
maize derived	a	batch	unknown	102	1			1
	a	batch	unknown	21	0			
other cereal grain derived	a	batch	unknown	74	5			5
Feed material of oil seed or fruit origin								
rape seed derived	a	batch	unknown	261	21			21
soya (bean) derived	a	batch	unknown	404	18			18
cotton seed derived	a	batch	unknown	1	0			
sunflower seed derived	a	batch	unknown	284	10			10
linseed derived	a	batch	unknown	33	0			
other oil seeds derived	a	batch	unknown	9	0			
Other feed material								
legume seeds and similar products	a	batch	unknown	8	0			
tubers, roots and similar products	a	batch	unknown	1	0			

Footnote

a-NRL salm

Table Salmonella in compound feedingstuffs

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Salmonella	S. Typhimurium	S. Enteritidis	Salmonella spp., unspecified
Compound feedingstuffs for cattle								
process control	NRLsalm	batch	unknown	67	1			1
final product	NRLsalm	batch	unknown	441	8			8
Compound feedingstuffs for pigs								
process control	NRLsalm	batch	unknown	79	6			6
final product	NRLsalm	batch	unknown	1224	21			21
Compound feedingstuffs for poultry (non specified)								
process control	NRLsalm	batch	unknown	26	0			
final product	NRLsalm	batch	unknown	664	6			6
Compound feedingstuffs for poultry -breeders								
process control	NRLsalm	batch	unknown	8	0			
final product	NRLsalm	batch	unknown	177	0			
Compound feedingstuffs for poultry - laying hens								
process control	NRLsalm	batch	unknown	56	0			
final product	NRLsalm	batch	unknown	404	13			13
Compund feedingstuffs for poultry - broilers								
process control	NRLsalm	batch	unknown	51	1			1
final product	NRLsalm	batch	unknown	805	10			10
Pet food								
dog snacks (pig ears, chewing bones)	NRLsalm	batch	unknown	901	30			30
Compound feedingstuffs for fish								
- in total - Surveillance - official controls (other than control and eradication programmes)	NRLsalm	batch	unknown	526	1			1
Compound feedingstuffs for fur animal								

- in total - Surveillance - official controls (other than control and eradication programmes)	NRLsalm	batch	unknown	104	23			23
Compound feedingstuffs, not specified								
- at retail - Monitoring - official sampling	NRLsalm	batch	unknown	27	0			

Footnote

3500 próbek zbadano w kierunku Salmonelli w ramach Krajowego Planu kontroli urzÄ™dowej Å›rodków Å¼ywienia zwierzÄ…t w zakresie nadzoru Inspekcji Weterynaryjnej na 2005 rok"

2.1.5. Salmonella serovars and phagetype distribution

Table Salmonella serovars in animals

Serovars		Other poultry		Other animals - at farm - animal sample - Clinical investigations (other animals including 234 turkeys; 141 geese; 53 ducks; 31 reptiles)		Cattle (bovine animals)		Pigs		Gallus gallus (fowl)	
Sources of isolates		M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)
Number of isolates in the laboratory	N=				564		3		40	470	1272
Number of isolates serotyped	N=				53		1		29	470	48
Number of isolates per type											
S. Abony					6						
S. Agona					1				1		
S. Albany										1	

S. Anatum									5	
S. Bareilly									1	
S. Braenderup									1	
S. Brandenburg								2		
S. Bredeney				1				5		
S. Choleraesuis								3		
S. Derby				2				5	5	
S. Enteritidis				8					253	29
S. Give								1		
S. Hadar				4					29	3
S. Heidelberg									1	
S. Indiana									6	
S. Infantis									81	3
S. Isangi									1	
S. Kottbus				1					1	
S. Lille									1	
S. Livingstone								1	3	
S. London								1		
S. Mbandaka				2					35	3
S. Montevideo									1	
S. Newport				2					1	1
S. Parkroyal								1		
S. Reading								1		
S. Rissen				1					1	
S. Saintpaul				4					3	
S. Sandiego				3						
S. Schwarzengrund									3	
S. Senftenberg									1	1
S. Stanleyville									1	
S. Typhimurium				15		1		7	14	6
S. Virchow				3				1	21	
S. Gallinarum										2

Total of typed *Salmonella* isolates										

Footnote

(*) M : Monitoring, C : Clinical

Table Salmonella serovars in food

Serovars		Eggs		Meat from bovine animals		Meat from pig		Meat from broilers (Gallus gallus)		Other poultry		Other products of animal origin		Other food	
Sources of isolates		M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)	M(*)	C(*)
Number of isolates in the laboratory	N=	6		25		40		40						33	
Number of isolates serotyped	N=	4		3		1		7						31	
Number of isolates per type															
S. Anatum														1	
S. Enteritidis		4				1		4						1	
S. Hadar				1											
S. Indiana				1											
S. Infantis								1						1	
S. Saintpaul				1											
S. Typhimurium								2							
Total of typed *Salmonella* isolates															

Footnote

(*) M : Monitoring, C : Clinical

monitor.-isolates out of monitoring programs;
Strains submitted by regional laboratories

2.1.6. Antimicrobial resistance in Salmonella isolates

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.

A. Antimicrobial resistance in Salmonella in cattle

Sampling strategy used in monitoring

Frequency of the sampling

No active monitoring has been conducted.
The epidemiological situation in cattle and pigs is not well recognized.

Control program/mechanisms

The control program/strategies in place

B. Antimicrobial resistance in Salmonella in poultry

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

2004 - Antimicrobial resistance was observed in 44.3% of tested Salmonella strains. Multiresistance was observed mainly in S. Hadar and S. Typhimurium. Antimicrobial resistance in non-pathogenic E. coli was more frequent than in Salmonella. The highest resistance and multiresistance was noted in strains isolated from Gallus gallus. Quinolones and betalactam resistance was observed both in Salmonella and E. coli. The obtained results on Salmonella occurrence and antimicrobial resistance showed the similar trends to those observed in the other Member States.
(2005):
Antimicrobial resistance was observed in 45.1% of tested Salmonella strains. Resistance and multiresistance was observed mainly in S. Hadar and S. Typhimurium. Antimicrobial resistance in non-pathogenic E. coli was less frequent than in Salmonella (41.0%). The highest resistance and multiresistance was noted in strains isolated from Gallus gallus. Quinolones and betalactam resistance was observed both in Salmonella and E. coli.
The baseline studies in layers and broilers revealed:
- of all the serovars tested S. Hadar showed the highest antimicrobial resistance. Almost all of them reveal nalidixic acid and streptomycin resistance and 78.6% of the strains showed tetracycline resistance and 42.9% were resistant to ampicillin.
Nalidixic acid resistance was the most frequent resistance observed in S. Enteritidis and S. Infantis (respectively, 17.0% and 12.0%).
Strains isolated from other animal species, food and feed were not tested for antimicrobial resistance.

C. Antimicrobial resistance in Salmonella in foodstuff derived from pigs

Sampling strategy used in monitoring

Frequency of the sampling

Strains isolated from food and feed were not tested for antimicrobial resistance.

Table Antimicrobial susceptibility testing of S. Enteritidis in Gallus gallus (fowl) - at farm - Monitoring (Baseline studies in layers and broilers in 2005) - quantitative data [Dilution method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	S. Enteritidis
	Gallus gallus (fowl) - at farm - Monitoring (Baseline studies in layers and broilers in 2005)
Isolates out of a monitoring programme	yes
Number of isolates available in the laboratory	235

Antimicrobials:	**N**	**n**	**<=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**
Tetracyclines	235	3							231	1				3							1	32
Amphenicols																						
Chloramphenicol	235	0							59	143	32	1									2	64
Florfenicol	235	0							115	107	13										2	64
Cephalosporins																						
Cefuroxim	132	1					195	36	4												1	32
Fluoroquinolones																						
Ciprofloxacin	105	0	84	2	7	8	2	2													0	4
Enrofloxacin	132	0	96	8	11	14															0	2
Quinolones																						
Nalidixic acid	235	40									195			1	1	36					8	128
Trimethoprim	235	0								235											4	32
Sulfonamides																						
Sulfonamide	235	8												226	1			8			64	1024
Aminoglycosides																						
Streptomycin	235	6								207	17	5		1	5						4	64
Gentamicin	235	1						231	2	1			1								1	32
Neomycin	235	1							234				1								2	32
Penicillins																						
Ampicillin	235	3						196	35	1	0	0	0	3							1	32

Table Antimicrobial susceptibility testing of S. Hadar in Gallus gallus (fowl) - at farm - Monitoring (baseline studies in layers and broilers in 2005) - quantitative data [Dilution method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	S. Hadar
	Gallus gallus (fowl) - at farm - Monitoring (baseline studies in layers and broilers in 2005)
Isolates out of a monitoring programme	yes
Number of isolates available in the laboratory	28

Antimicrobials:	**N**	**n**	**<=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**
Tetracyclines	28	22							6	0	0	0	19	3								
Amphenicols																						
Chloramphenicol	28	0							5	20	3											
Florfenicol	28	0							21	7												
Cephalosporins																						
Cefuroxim	21	0								17	4											
Fluoroquinolones																						
Ciprofloxacin	7	0			2	5																
Enrofloxacin	21	0	1		6	13	1															
Quinolones																						
Nalidixic acid	28	27									1				27							
Trimethoprim	28	1								27				1							4	32
Sulfonamides																						
Sulfonamide	28	4												24				4			64	1024
Aminoglycosides																						
Streptomycin	28	27										1		7	20						4	64
Gentamicin	28	0						28													1	32
Neomycin	28	0							28												2	32
Penicillins																						
Ampicillin	28	12						14	2					12							1	32

Table Antimicrobial susceptibility testing of S. Infantis in Gallus gallus (fowl) - at farm - Monitoring (baseline studies in layers and broilers in 2005) - quantitative data [Dilution method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	S. Infantis
	Gallus gallus (fowl) - at farm - Monitoring (baseline studies in layers and broilers in 2005)
Isolates out of a monitoring programme	yes
Number of isolates available in the laboratory	75

Antimicrobials:	**N**	**n**	**<=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**
Tetracyclines	75	0							73	2											1	32
Amphenicols																						
Chloramphenicol	75	0							5	33	37										2	64
Florfenicol	75	0							9	59	7										2	64
Cephalosporins																						
Cefuroxim	39	0							1	17	21										1	32
Fluoroquinolones																						
Ciprofloxacin	36	0	32		1	3															0,03	4
Enrofloxacin	39	0	34		2	3															0,016	2
Quinolones																						
Nalidixic acid	75	9									66				2	7					8	128
Trimethoprim	75	0								75											4	32
Sulfonamides																						
Sulfonamide	75	0												70	5						64	1024
Aminoglycosides																						
Streptomycin	75	3								8	41	23	2		1						4	64
Gentamicin	75	0						75													1	32
Neomycin	75	0							74	1											2	32
Penicillins																						
Ampicillin	75	1						66	8					1							1	32

Table Antimicrobial susceptibility testing of S. Mbandaka in Gallus gallus (fowl) - at farm - Monitoring (baseline studies in layers and broilers in 2005) - quantitative data [Dilution method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	S. Mbandaka
	Gallus gallus (fowl) - at farm - Monitoring (baseline studies in layers and broilers in 2005)
Isolates out of a monitoring programme	yes
Number of isolates available in the laboratory	33

Antimicrobials:	**N**	**n**	**<=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**
Tetracyclines	33	0							32	1											1	32
Amphenicols																						
Chloramphenicol	33	0							2	19	12										2	64
Florfenicol	33	0								32	1										2	64
Fluoroquinolones																						
Ciprofloxacin	12	0	10	1		1															0	4
Enrofloxacin	21	0	19	2																	0	2
Quinolones																						
Nalidixic acid	33	0									31	1			1						8	128
Trimethoprim	33	0								33											4	32
Sulfonamides																						
Sulfonamide	33	2												29	2			2			64	1024
Aminoglycosides																						
Streptomycin	33	1								2	19	11				1					4	64
Gentamicin	33	0						32	1												1	32
Neomycin	33	0							32	1											2	32
Cephalosporins																						
Cefuroxim	21	0							2	18	1										1	32
Penicillins																						
Ampicillin	33	0						32	1												1	32

Table Antimicrobial susceptibility testing of Salmonella spp. in Other animals - in total - Monitoring - quantitative data [Dilution method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	Salmonella spp.
	Other animals - in total - Monitoring
Isolates out of a monitoring programme	no
Number of isolates available in the laboratory	1879

Antimicrobials:	**N**	**n**	**<=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**
Tetracyclines	27	1							26				1								1	32
Amphenicols																						
Chloramphenicol	27	0							4	23											2	64
Florfenicol	27	0							17	10											2	64
Cephalosporins																						
Cefuroxim	27	0						1	5	21											1	32
Fluoroquinolones																						
Ciprofloxacin																					0,016	2
Enrofloxacin	27	0	22	5																		
Quinolones																						
Nalidixic acid	27	0									27										8	128
Trimethoprim	27	0								27											4	32
Sulfonamides																						
Sulfonamide	27	0												22				5			64	1024
Aminoglycosides																						
Streptomycin	27	0										6	21								4	64
Gentamicin	27	0						27													1	32
Neomycin	27	0							25	2											2	32
Penicillins																						
Ampicillin	27	0						27													1	32

Table Antimicrobial susceptibility testing of other serovars in Gallus gallus (fowl) - at farm - Monitoring (baseline studies in layers and broilers in 2005) - quantitative data [Dilution method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	other serovars
	Gallus gallus (fowl) - at farm - Monitoring (baseline studies in layers and broilers in 2005)
Isolates out of a monitoring programme	yes
Number of isolates available in the laboratory	72

Antimicrobials:	**N**	**n**	**<=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**
Tetracyclines	72	11							61			5	5	1							1	32
Amphenicols																						
Chloramphenicol	72	8							7	36	20	1			8						2	64
Florfenicol	72	6							18	41	6	1	6								2	64
Cephalosporins																						
Cefuroxim	47	0							5	29	12	1									1	32
Fluoroquinolones																						
Ciprofloxacin	25	0	16	2	4	3															0,03	4
Enrofloxacin	47	0	20	2	12	11	1	1													0,016	2
Quinolones																						
Nalidixic acid	72	35									37		1	6	8	20					8	128
Trimethoprim	72	0								72											4	32
Sulfonamides																						
Sulfonamide	72	18												52	1		19				64	1024
Aminoglycosides																						
Streptomycin	72	18								3	23	28	4	6	8						4	64
Gentamicin	72	0						67	2		3										1	32
Neomycin	72	1							70	1				1							2	32
Penicillins																						
Ampicillin	72	14						48	8		2			14							1	32

2.2. CAMPYLOBACTERIOSIS

2.2.1. General evaluation of the national situation

A. Thermophilic Campylobacter General evaluation

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

It is impossible to assess sources and trends of spreading of Campylobacteria because of the lack of control examinations.

2.2.2. Campylobacter, thermophilic in foodstuffs

2.2.3. Campylobacter, thermophilic in animals

2.2.4. Antimicrobial resistance in Campylobacter, thermophilic isolates

2.3. LISTERIOSIS

2.3.1. General evaluation of the national situation

A. Listeriosis general evaluation

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

There is no control examinations programme for detection of Listeria monocytogenes. The assessment of the sources and trends of spreading of this zoonosis is not possible.

Additional information

The data comes from testing of finished products intended for human consumption, within the frame of internal control and from testing within the frame of the official supervision. For example in 2004, 4440 samples of dairy products were tested, and Listeria monocytogenes were detected in 3. Twenty-three (23) samples of beef were also tested-2 positive samples, 2648 meat products-17 positive samples, 2474 samples of raw milk-1 positive sample.
(2005)
In 2005 3066 samples of milk and dairy products were tested, and L. monocytogenes were detected in 10. Three hundred ninety seven (397) samples of poultry meat and poultry meat products were also tested-12 positive samples, 1558 fresh meat from pig and meat products-9 positive samples,23 beef-5 positive samples, 627 other products of animal origin-11positive samples.

2.3.2. Listeria in foodstuffs

Table Listeria monocytogenes in milk and dairy products

	Source of information	Sampling unit	Sample weight	Definition used	Units tested	=<100 cfu/g	>100 cfu/g	Total units positive for L.monocytogenes	Listeria monocytogenes presence in x g
Milk, cows'	a	unknown	unknown		60			0	
raw									
intended for direct human consumption	a	unknown	unknown		30			1	1
raw milk for manufacture									
intended for manufacture of raw or low heat-treated products	a	unknown	unknown		37			3	3
pasteurised milk	a	unknown	unknown		439			0	
Milk, goats'									
pasteurised	a	unknown	unknown		5			0	
Cheeses made from cows' milk									
soft and semi-soft									
made from raw or low heat-treated milk	a	unknown	unknown		465			0	
made from pasteurized milk	a	unknown	unknown		410			3	3
hard									
made from raw or low heat-treated milk	a	unknown	unknown		245			0	
made from pasteurized milk	a	unknown	unknown		299			0	
Cheeses made from goats' milk									
soft and semi-soft									
made from raw or low heat-treated milk	a	unknown	unknown		58			2	2
made from pasteurized milk	a	unknown	unknown		10			0	
hard									

made from pasteurized milk	a	unknown	unknown		21			0	
Cheeses made from sheep's milk									
soft and semi-soft									
made from raw or low heat-treated milk	a	unknown	unknown		20			1	1
hard									
made from pasteurized milk	a	unknown	unknown		35			0	
Dairy products (excluding cheeses)									
butter	a	unknown	unknown		211			0	
cream	a	unknown	unknown		280			0	
dairy products, not specified	a	unknown	unknown		441			0	

Footnote

a-The results obtained from regional veterinary laboratories
b-The sampling carried out as a part of the official controls and sampling at the initiative of the operators

Table Listeria monocytogenes in other foods

	Source of information	Sampling unit	Sample weight	Definition used	Units tested	=<100 cfu/g	>100 cfu/g	Total units positive for L.monocytogenes	Listeria monocytogenes presence in x g
Meat from broilers (Gallus gallus)									
fresh	a	unknown			191	2		6	4
meat products									
cooked, ready-to-eat	ab	unknown			206			2	2
Meat from pig									
fresh	ab	unknown			143			9	9
meat products									
cooked, ready-to-eat	ab	unknown			1415			0	
Meat from bovine animals									
meat products									
cooked, ready-to-eat	ab	unknown			23			5	5
Fish									
smoked	ab	unknown			6	2		3	1
Crustaceans									
unspecified									
cooked	ab	unknown			12			2	2
Molluscan shellfish									
cooked	ab	unknown			129			0	
Other products of animal origin	ab	unknown			480			4	4

Footnote

a-The results obtained from regional veterinary laboratories
b-The sampling carried out as a part of the official controls and sampling at the initiative of the operators

2.3.3. Listeria in animals

Table Listeria spp. in animals

	Source of information	Sampling unit	Units tested	Total units positive for Listeria	L. monocytogenes	Listeria spp., unspecified
Cattle (bovine animals)	a	animal	14	1	1	
Sheep	a	animal	1	1	1	

Footnote

a-The results obtained from regional veterinary laboratories

2.4. E. COLI INFECTIONS

2.4.1. General evaluation of the national situation

A. Verotoxigenic Escherichia coli infections general evaluation

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

In Poland no active monitoring of the contamination of humans and animals with Verocytoxic strains of Escherichia coli was conducted, nor any examinations of a wider spectrum concerning the carrier state, identification and description of threats to human health from pathogenic bacteria producing vero (shiga) toxins. Recent examinations, using the methods based on molecular biology and PCR tests, conducted within the frame of multiannual programme indicate that similarly to other countries, STEC bacteria (Shiga toxin-producing E.coli) coming from cattle and pigs show clonal similarity with bacteria of this type, isolated in humans. A frequently occurring carrier state, similar pathogenic characteristics and a high level of genotypic kinship were diagnosed. These characteristics are a source of potential threat to human health (J. Osek).

Additional information

In Poland so far no monitoring of contamination of food of animal origin aiming at the detection of E.coli has been conducted. The examinations test for a total number of aerobic bacteria and relatively aerobic bacteria and a total number of Escherichia coli on 1 cm of surface of a carcass of a slaughtered animal. Slaughterhouses have an obligation of supplying once every 3 months, within the frame of internal control, a sample for testing. Within the frame of the supervision of the Veterinary Inspection 1233 samples of beef, pork and poultry were taken, 1 of which was positive (figure 11.2).
The data concerning Verocytotoxic E. coli are obtained from the examinations conducted within the frame of a multiannual research programme 2003-2008 under the name Protection of animal and public health. The research material was a beef muscle taken in slaughterhouses, coming from healthy animals.The method of testing consisted on the preliminary multiplication in TSB broth (225ml) in 37 º C, 18 h (of 25 g of a muscle sample) and then on marking the gene stx of a Vero toxin using PCR technique.In 2004, 144 meat samples were tested, among which 12 were positive cases (8,3 %).
(2005):
In 2005, NRL tested 442 bovine meat-fresh samples, among witch 26 were positive cases (5,88%)and district veterinary laboratories tested 1104 other meat samples in witch 41 were positive cases(3,71%.

2.4.2. Escherichia coli, pathogenic in foodstuffs

Table VT E.coli in food

	Source of information	Sampling unit	Sample weight	Units tested	Total units positive for Escherichia coli, pathogenic	E. coli spp., unspecified	Verotoxigenic E. coli (VTEC) - VTEC O157	Verotoxigenic E. coli (VTEC) - VTEC O157:H7
Meat from broilers (Gallus gallus)	a	sample	unknown	7	0			
fresh	a	sample	unknown	7	0			
Meat from turkey	a	sample	unknown	26	3	3		
Meat from pig	a	sample	unknown	161	0			
minced meat								
intended to be eaten raw	a	sample	unknown	499	31	31		
Meat from bovine animals	NRL	sample	unknown	442	26	26		
fresh	a	sample	unknown	285	0			
minced meat								
intended to be eaten raw	a	sample	unknown	99	7	7		
Meat from sheep								
fresh	a	sample	unknown	10	0			
Milk, cows'								
raw	a	sample	unknown	10	0			

Footnote

a- results obtained from district veterinary laboratories

2.4.3. Escherichia coli, pathogenic in animals

A. Verotoxigenic Escherichia coli in cattle (bovine animals)

Monitoring system

Sampling strategy

No control examinations are conducted. The scarce results concerning samples taken from sick animals are not available.
(2005)
In 2005,the results are not available.

2.5. TUBERCULOSIS, MYCOBACTERIAL DISEASES

2.5.1. General evaluation of the national situation

A. Tuberculosis General evaluation

History of the disease and/or infection in the country

Tuberculosis was identified as a disease subject to obligatory notification in Poland in 1927. Until 1936 tuberculosis was being eradicated with tuberculinisation, on a voluntary basis and without much result. Killed animals were reimbursed. The general and planned eradication of tuberculosis, with the costs borne by the state, was begun in Poland in 1959. The action of eradicating this diseases was started in the least infected Eastern voivodships. At that time the highest infection levels were noted in central and Western voivodships. As a result of the undertaken actions the number of infected cattle fell to 0,5 % and in December 1975, according to international norms in force at that time, Poland was recognized as country free from bovine tuberculosis. In the following years, the screening was conducted every 3 years in individual holdings and twice a year in big state-owned holdings.

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

The percentage of infected herds in Poland in the last 7 years (1999 - 2005) has been lower than 0,2 % and amounted to: in 1999 - 0,008 %; in 2000 - 0,015 %; in 2001- 0,007 %; in 2002 - 0,019 %; in 2003 - 0,008 %; in 2004 - 0,047% and in 2005-0,054%
On the basis of data sent by the district veterinary inspectorate it is clear that in 2004, 73 sheep, 113 goats, 3321 pigs, 135 horses and 2 bisons underwent the intraderm tuberculinisation .
In 2005,9 goats and 5123 pigs undewent tuberculin tests.
All animals were a negative. A single test in sheep and pigs is conducted without prior measuring of the thickness of the skin fold, on the inner side of an animals leg, as well on the skin of an auricle.
Actions undertaken recently to eradicate the disease:
Currently in Poland the control examinations and eradication of bovine tuberculosis are conducted on the basis the Act of 11 March 2004 on protection of animal health and control of infectious animal diseases, the Ordinance of the Minister of Agriculture and Rural Development of 23 November 2004 on the eradication of bovine tuberculosis and the instruction of the Chief Veterinary Officer on the procedures related to the eradication of animal tuberculosis of 14 August 2003, created on the basis of the Council Directive 64/432/EEC.
Until 31 April 2004 the testing programme under the Ordinance of the Minister of Agriculture and Rural Development of 12 October 1999 and the Ordinance of the Minister of Agriculture and Rural Development of 4 April 2003 was in operation, according to which the testing was obligatory for the cattle of 6 weeks of age in 1/3 of holdings in a district area, so that within 3 years all cattle in a district can be tested. Starting with the 1st of May 2004, under EU requirements, Poland examines by tuberculinisation cattle no younger than 6 weeks in 1/3 of herds in a district area, so that within 3 years all cattle in a district is tested.

Additional information

In Poland no official eradication of tuberculosis in species other than cattle is carried out. All slaughter animals, except poultry, are subject to routine, official post mortem examination including the examination of lymph nods.
On the basis of data sent by the district veterinary inspectorate it is clear that 73 sheep, 113 goats, 3321 pigs, 135 horses and 2 bisons underwent the intraderm tuberculinisation in 2004. All animals were a negative. A single test in sheep and pigs is conducted without prior measuring of the thickness of the skin fold, on the inner side of an animals leg, as well on the skin of an auricle.
(2005)
In 2005, 9 goats and 5123 pigs underwent the intraderm tuberculinisation with negative results.

2.5.2. Mycobacterium in animals

A. Mycobacterium bovis in Bovine Animals

Monitoring system

Methods of sampling (description of sampling techniques)

Case definition

An epidemiological unit is a herd.
Definitions of cases:
A positive case is an animal with a positive result of the comparative tuberculinisation test, in which M. bovis or M. tuberculosis were isolated, or an animal with a positive post mortem examination result confirmed by a laboratory (slaughter, killing, death).

Diagnostic/analytical methods used

The method of conducting official allergic test and the interpretation of the reaction is conducted on the basis of the Instruction of the Chief Veterinary Officer No GIWz. VIII 401/Gr-1/a/2003 of 14 August 2003.
Screening for tuberculosis consists in intradermal tests (official tests are performed using PPD bovine and avian purified protein derivative of tuberculin, obtained from growth and analysis products of Mycobacterium bovis AN5 or M. avium D4ER) with the simultaneous clinical examination and additional laboratory examination of samples taken after slaughter or in post mortem examination. The examination consists in microscopic, breeding and biological assay on laboratory animals.

Vaccination policy

In Poland there the treatment of cattle reacting positively is forbidden. The vaccinations against tuberculosis are not used for animals

Measures in case of the positive findings or single cases

The animal identified as ill based on the tuberculinisation testing results is subject to isolation, permanent marking by cutting a triangle in its right auricle and it is killed with lethal injection. The post mortem examination is then conducted and samples are taken for test in order to isolate and identify M. bovis.
In case of post-mortem detection of bovine tuberculosis in an animal, samples are taken for laboratory tests. The herd of which the killed animal originated is subject to routine tuberculinisation, its status of a herd officially free from tuberculosis is suspended until the results of tests for isolation of M. bovis are obtained.
The suspicion or confirmation of tuberculosis results in an administrative decision, with which a district veterinary officer forbids the transfer of cattle from one herd to another, orders isolation of a sick animal and undertakes all possible actions in order to prevent the disease from spreading.
In case of confirmation of the suspected tuberculosis infection, the district veterinary officer notifies the state district sanitary inspector of this fact, as well as the entity buying in milk, on

the suspension of the officially free from tuberculosis herd status.

B. Mycobacterium bovis in farmed deer

Monitoring system

Sampling strategy

In Poland no official eradication of tuberculosis in species other than cattle is carried out. All slaughter animals, except poultry, are subject to routine, official post mortem examination including the examination of lymph nods.
On the basis of data sent by the district veterinary inspectorate it is clear that 73 sheep, 113 goats, 3321 pigs, 135 horses and 2 bisons underwent the intraderm tuberculinisation in 2004. All animals were a negative. A single test in sheep and pigs is conducted without prior measuring of the thickness of the skin fold, on the inner side of an animals leg, as well on the skin of an auricle.
In 2005,there is no information regarding diagnostic tests and results for farmed deer.

Table Tuberculosis in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Mycobacterium	M. bovis	M. tuberculosis	Mycobacterium spp., unspecified
Goats	reg. lab.	official vet.	9	0			
Pigs	reg. lab.	official vet.	5123	0			

Table Bovine tuberculosis - data on herds - Community co-financed eradication programmes

Region	Total number of herds	Total number of herds under the programme	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	% positive herds depopulated	Indicators		
								% herd coverage	% positive herds period herd prevalence	% new positive herds - herd incidence
Dolnoslaskie	23132	7854	5794	2	0	0	0	73.771	0.035	0
Kujawsko-Pomorskie	40427	13545	11848	7	7	1	14.286	87.471	0.059	0.059
Lubelskie	117135	38413	29584	3	0	0	0	77.016	0.01	0
Lubuskie	6956	2239	2122	7	2	0	0	94.774	0.33	0.094
Lodzkie	83083	25619	22929	12	10	7	58.333	89.5	0.052	0.044
Malopolskie	113893	38635	18064	0	0	0	0	46.756	0	0
Mazowieckie	146087	60859	35842	63	35	4	6.349	58.894	0.176	0.098
Opolskie	13302	4523	3355	1	1	0	0	74.176	0.03	0.03
Podkarpackie	95197	29636	25299	1	1	1	100	85.366	0.004	0.004
Podlaskie	63896	18979	16177	2	2	0	0	85.236	0.012	0.012
Pomorskie	23353	7835	5979	0	0	0	0	76.311	0	0
Slaskie	31100	10974	8174	1	1	1	100	74.485	0.012	0.012
Swietokrzyskie	71524	20579	15506	6	6	2	33.333	75.349	0.039	0.039
Warminsko-Mazurskie	28248	9744	9013	12	10	2	16.667	92.498	0.133	0.111
Wielkopolskie	61195	18990	17003	6	2	0	0	89.537	0.035	0.012
Zachodniopomorskie	11908	3820	3023	1	1	0	0	79.136	0.033	0.033
Total	930436	312244	229712	124	78	18	14.516	73.568	0.054	0.034
Total - 1	882761	282752	260907	136	125	20	14.71	92.27	0.052	0.048

Table Bovine tuberculosis - data on animals - Community co-financed eradication programmes

Region	Total number of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of new positive animals	Slaughtering		Indicators	
						Number of animals with positive result slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals - animal prevalence
Dolnoslaskie	146266	43530	46181	46181	7	7	22087	106.09	0.015
Kujawsko-Pomorskie	482981	152714	142998	142998	93	93	20902	93.638	0.065
Lubelskie	536912	164250	119214	119214	3	3	141015	72.581	0.003
Lubuskie	81450	25247	26647	26647	15	15	2341	105.545	0.056
Lodzkie	472857	133167	130193	130193	74	74	141797	97.767	0.057
Malopolskie	291674	91988	41193	41193	0	0	206635	44.781	0
Mazowieckie	1095811	497904	271810	271810	216	208	167735	54.591	0.079
Opolskie	136621	39015	35142	35142	2	2	7894	90.073	0.006
Podkarpackie	229290	58409	51506	51506	1	1	37136	88.182	0.002
Podlaskie	780279	214955	207806	207806	4	4	74724	96.674	0.002
Pomorskie	197722	58931	51366	51366	0	0	50067	87.163	0
Slaskie	145179	42357	38831	38831	1	1	71611	91.676	0.003
Swietokrzyskie	234204	67456	52245	52245	8	8	20465	77.45	0.015
Warminsko-Mazurskie	454921	141783	136000	136000	74	74	62279	95.921	0.054
Wielkopolskie	742689	209383	206084	206084	39	39	173424	98.424	0.019
Zachodniopomorskie	117767	31052	27205	27205	1	1	16994	87.611	0.004
Total	6146623	1972141	1584421	1584421	538	530	1217106	80.34	0.034
Total - 1	5649362	1760436	1674775	1674775	536	548	548		0

Footnote

In Poland, number of herds and number of animals under official control means the number of herds and number of animals which should be covered by the official control every year. Data on number of herds and animals, in case of catlle, was obtained from the Agency for Restructuring and Modernisation of Agriculture. During the performance of the control concerned some of herds happens to include more animals then it was expected. Thus,the number of tested animals could be higher than the number of animals under the programme.

Table Bovine tuberculosis - data on status of herds at the end of the period - Community co-financed eradication programmes

Region	Status of herds and animals under the programme													
	Total number of herds and animals under the programme		Unknown		Not free or not officially free				Free or officially free suspended		Free		Officially free	
					Last check positive		Last check negative							
	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals
Dolnoslaskie	5794	46181	0	0	0	0	0	0	5	1340	0	0	5789	44841
Kujawsko-Pomorskie	11848	142998	0	0	0	0	2	8	3	8	0	0	11843	142982
Lubelskie	29584	119214	0	0	0	0	0	0	0	0	0	0	29584	119214
Lubuskie	2122	26647	0	0	0	0	0	0	4	1700	0	0	2118	24947
Lodzkie	22929	130193	0	0	5	92	0	0	5	171	0	0	25651	129930
Malopolskie	18064	41193	0	0	0	0	0	0	0	0	0	0	18064	41193
Mazowieckie	35842	271810	0	0	12	452	2	58	15	267	0	0	35813	271033
Opolskie	3355	35142	0	0	0	0	0	0	0	0	0	0	3355	35142
Podkarpackie	25299	51506	0	0	0	0	0	0	0	0	0	0	25299	51506
Podlaskie	16177	207806	0	0	0	0	0	0	0	0	0	0	16177	207806
Pomorskie	5979	51366	0	0	0	0	0	0	0	0	0	0	5979	51366
Slaskie	8174	38831	0	0	0	0	0	0	0	0	0	0	8174	38831
Swietokrzyskie	15506	52245	0	0	6	8	0	0	2	2	0	0	15498	52235
Warminsko-Mazurskie	9013	136000	0	0	0	0	0	0	3	102	0	0	9010	135898
Wielkopolskie	17003	206084	0	0	6	39	1	9	2	399	0	0	16994	205637
Zachodniopomorskie	3023	27205	0	0	0	0	0	0	0	0	0	0	3023	27205
Total	229712	1584421	0	0	29	591	5	75	39	3989	0	0	232371	1579766
Total - 1	260907	1674775	1	2	25	1814	9	116	37	2009	0	0	260835	1670834

Table Tuberculosis in farmed deer

Region	Total number of existing farmed deer		Free herds		Infected herds		Routine tuberculin testing		Number of tuberculin tests carried out before the introduction into the herds	Number of animals with suspicious lesions of tuberculosis examined and submitted to histopathological and bacteriological examinations	Number of animals detected positive in bacteriological examination
	Herds	Animals	Number of herds	%	Number of herds	%	Interval between routine tuberculin tests	Number of animals tested			
Dolnoslaskie	1	4									
Kujawsko-Pomorskie	0	0									
Lubelskie	0	0									
Lubuskie	2	228									
Lodzkie	0	0									
Malopolskie	5	48									
Mazowieckie	3	406									
Opolskie	0	0									
Podkarpackie	2	125									
Podlaskie	0	0									
Pomorskie	0	0									
Slaskie	0	0									
Swietokrzyskie	0	0									
Warminsko-Mazurskie	12	1036									
Wielkopolskie	0	0									
Zachodniopomorskie	6	72									
Total	31	1919	0	0	0	0	0	0	0	0	0

Footnote

There is no information regarding diagnostic tests and results for farmed deer.

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

In Poland, after the war, the largest percentage of infected farms was observed in Western and Northern regions. Between 1948 and 1956 the tests for brucellosis covered only the nationalized large-scale holdings. Serological reactions were observed in 7.2-22.8% animals.

Between 1956 and 1966, around 350,000 to 1,000,000 cattle were tested annually and brucellosis was detected on average in 2.3% to 5.7% of nationalized holdings and in 0.32-1.7% of individual holdings. At the end of 1966 almost 12% of cattle in nationalized holdings were infected with bovine brucellosis and Brucella was detected bacteriologically in 24.4% of aborted embryos .

Between 1953 and 1956, due to the high percentage of herds where brucellosis was detected, it was decided to conduct vaccinations with S-19 vaccine. The bovine animals in selected state-owned and cooperative holdings were vaccinated. Within that period 266,000 bovine animals were vaccinated. The vaccinations were continued until 1966 when the Veterinary Department prohibited to use them in the regions of Eastern and central Poland. The planned bovine brucellosis control began on those regions in 1969, on the basis of the act of 13 November 1963 on infectious disease control. The infected cattle from individual holdings were slaughtered with the full compensation provided.

Between 1965 and 1967 the serological tests of cattle were conducted in Gdanskie, Lubelskie and Olsztynskie regions and in all districts bordering with Czechoslovakia in order to determine the epizootic situation in individual holdings . The conducted tests indicated that the percentage of cattle with positive reactions did not exceed 0.5%. From 1975 the control of brucellosis was conducted on the basis of the Ordinance of the Minister of Agriculture of 16 April on the obligation to report and control animal brucellosis. Bovine, sheep, goat and swine brucellosis is a compulsorily notifiable disease.

Animals recognized as infected or suspected of being infected, both in individual and in cooperative holdings, were depopulated with the compensation provided. The cattle infected with brucellosis in nationalized holdings were either depopulated or until 1975 transferred to the isolators.

Between 1975 and 1978 the serological tests covered from 5 to 7 million cattle. In total brucellosis was detected in 31,720 cattle which were subsequently slaughtered. It amounted to 0.06% of cattle in the country and 0.5% in nationalized holdings.

In 1978 the territory of the whole country, except for Gorzowskie and Zielonogorskie regions, was declared free of bovine brucellosis.

Only 10% of depopulated cattle came from the territory of 42 regions and 90% from the territory of the following 7 regions: Gorzowskie, Olsztynskie, Poznanskie, Szczecinskie and Zielonogorskie.

In 1980 by decision of the Minister of Agriculture the whole country was declared free of bovine brucellosis. The percentage of infected animals was lower than 0.5% and the percentage of infected holdings amounted to less than 0.2%.

In order to maintain the state achieved in 1980 periodical diagnostic tests and depopulation of

animals recognized as infected was introduced as well as the concurrent ban on performing protective vaccinations in the areas covered by the tests.
The tests covered annually one third of bovine population aged over 12 months on the territory of a region.
Currently there is a legal ban on treating brucellosis infected animals and a ban on vaccinations on the territory of the whole country.

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

Since 1999, on the basis of the Ordinance of the Minister of Agriculture and Food Economy Management of 12 October 1999 laying down types of samples, the scope of tests and the way of keeping documentation in respect of control tests for infections, residues of chemical and biological substances, medicinal products or radioactive contamination in animal tissues, meat, foodstuffs of animal origin and raw material of animal origin unfit for human consumption (Journal of Laws No 93, item 1080) and the Ordinance of the Minister of Agriculture and Rural Development of 4 April 2003, annually one third of cattle population aged over 12 month have been subject to serological tests on the territory of a district so that within 3 years the whole cattle population on the territory of a district was covered by the tests. In the case of sheep and goats the tests are conducted in the herds where the evaluation of breeding value is performed, in all non castrated males (rams and bucks) older than 6 months. Blood samples are taken from 25% of animals when the herd consists of over 50 animals and from all the animals in the case of smaller herds.
The obligation to test aborted embryos was introduced in accordance with Article 42 (1) of the act on protection of animal health and control of infectious animal diseases (Journal of Laws of 2004 No 69, item 625).
From 1 May 2004, in relation to the European Union requirements, Poland has tested blood samples in one third of cattle herds on the territory of a district so that within 3 years all cattle herds in the district were tested. On the territory of one of the regions (Opolskie) the collective milk samples coming from the cows from one herd are tested.
For many years Brucella spp. have not been isolated from taken blood and milk samples.
The percentage of infected herds in particular years (it was assumed that there is one herd in one holding) amounted to, respectively:
0.006 % in 1999; 0.009 % in 2000; 0.005 % in 2001; 0.006 % in 2002; 0.002 % in 2003; 0.004% in 2004 and 0,005% in 2005. (2005)
On the basis of obtained results of control tests in cattle herds it may be stated that the percentage of infected herds fluctuates between 0.002 and 0.006% while the number of infected herds in 2004 is higher than in 2003 but lower than in 2005.
During the tests of aborted embryos (segments of parenchymatous organs, ligated stomachs, whole embryos) in 2003 and 2004, no Brucella was isolated.
In 2004, 585 aborted embryos were supplied for testing, out of which 400 were tested bacteriologically.
In 2005, there were 12 newly infected herds, in which an infection was confirmed by serological tests in National Reference Laboratory in Pulawy.Brucella abortus was not isolated in any case, neither from the 12 animals in which the serological tests confirmed infection, nor from the aborted foetuses.
There were 578 notifications of abortions. Every of them was investigated by an official veterinarian. Bacteriological examination was carried out in 358 cases. Brucella abortus was not isolated in any of them.

No suspected lesions were found in an abbatoir.
The percentage of officially free herds at the end of the year was 99,999% for all herds and 99,995% among herds which were actually tested.

Recent actions taken to control the zoonoses

Brucellosis control is currently conducted in Poland on the basis of the act of 11 March 2004 on protection of animal health and control of infectious animal diseases and the Instruction of the Chief Veterinary Officer of 29 July 2003 No GIW z. VIII 410/Br-2/2003 on the procedures for animal brucellosis control based on the Directive 64/432 and the Ordinance of the Minister of Agriculture and Rural Development of 20 April 2005 on brucellosis control which partly implements the above-mentioned provisions.

2.6.2. Brucella in foodstuffs

2.6.3. Brucella in animals

A. Brucella abortus in Bovine Animals

Monitoring system

Case definition

Definition of a case:
-an animal in which Brucella spp. antibodies were detected during serological tests or from which Brucella spp. were isolated.
Epidemiological unit:
-the herd is an epidemiological unit.
Definition of cattle:
- bovine animals except for males for fattening.

Diagnostic/analytical methods used

In brucellosis diagnosis the following serological tests are used:
-tube agglutination tests
-buffered plate agglutination tests
-complement fixation test
-microagglutination test
-ELISA (enzyme-linked immunosorbent assay) with a single serum sample
and ring test or ELISA test for milk samples.
Official tests are performed by the state laboratories controlled by the referential laboratory. They are three-stage tests. At first the screening tests are performed - buffered plate agglutination tests, then the basic tests - tube agglutination and complement fixation tests and subsequently the additional tests - antiglobulin and microaglutination.

Measures in case of the positive findings or single cases

The district veterinary officer, having received the notification on suspected occurrance of brucellosis, immediately undertakes the actions aimed at determining the health status of the herd, whose free of brucellosis status is suspended until the decisive tests are conducted. He/she imposes a ban on transporting animals from and to a given holding, orders the isolation of animals suspected of being infected and notifies the entities which purchase the milk. He/she introduces all the restrictions aimed at preventing the spread of the infection (according to the above-mentioned Ordinance and Instruction). When a positive result is confirmed the district veterinary officer maintains all the bans and orders and notifies the state district sanitary inspector on the occurrence of brucellosis. Seropositive animal is killed and the full compensation is provided.

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

There is a lack of the examination results of the milk to be bought in and the heat-treated milk.

Additional information

(2005)Additional information concerning other animal species:
If the swine brucellosis is suspected, the animals aged over 4 months are subject to serological tests.
In the case of males of pigs (boars), sheep and goats (rams and bucks) for reproduction, tests for brucellosis are compulsory:
- during quarantine and each 12 months in the case of boars
- before mating period.
Those tests are conducted according to the Directive 94/429 and the Ordinance of the Minister of Agriculture and Rural Development of 27 April 2004 on detailed veterinary requirements applicable to pig semen (Journal of Laws of 2004 No 100, item 1017).
Serological tests of sows for reproduction and the repopulation of herds on commercial pig fattening farms have a voluntary character.
In 2004, 3938 pigs were tested with a negative result.
In 2005,there is lack of data concerning pigs.
In accordance with the Community legislation, Poland was not officially ovine and caprine brucellosis-free.
In order to control caprine and ovine brucellosis, ovine and caprine animals more than 6 month old were subject to serological tests. In the herds consisting of less than 50 animals, all adult sheeps and goats were tested.

Table Brucellosis in other animals

	Source of information	Sampling unit	Units tested	Total units positive for Brucella	B. melitensis	B. abortus	B. suis	Brucella spp., unspecified
Wild boars								
- at game handling establishment - Surveillance		animal	61	4			4	

Table Bovine brucellosis - data on herds - Community co-financed eradication programmes

Region	Total number of herds	Total number of herds under the programme	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	% positive herds depopulated	Indicators		
								% herd coverage	% positive herds period herd prevalence	% new positive herds - herd incidence
Dolnoslaskie	23132	7508	5612	0	0	0	0	74.747	0	0
Kujawsko-Pomorskie	40427	13546	11303	0	0	0	0	83.442	0	0
Lubelskie	117135	38403	29521	0	0	0	0	76.872	0	0
Lubuskie	6956	2238	2207	0	0	0	0	98.615	0	0
Lodzkie	83083	26178	22780	0	0	0	0	87.02	0	0
Malopolskie	113893	38635	17791	1	1	0	0	46.049	0.006	0.006
Mazowieckie	146087	60859	35506	3	3	0	0	58.341	0.008	0.008
Opolskie	13302	6022	4683	2	2	0	0	77.765	0.043	0.043
Podkarpackie	95197	28944	25194	2	2	1	50	87.044	0.008	0.008
Podlaskie	63896	18881	16000	0	0	0	0	84.741	0	0
Pomorskie	23353	6699	5714	0	0	0	0	85.296	0	0
Slaskie	31100	9845	8049	0	0	0	0	81.757	0	0
Swietokrzyskie	71524	20572	15121	0	0	0	0	73.503	0	0
Warminsko-Mazurskie	28248	9653	8710	0	0	0	0	90.231	0	0
Wielkopolskie	61195	18239	15537	4	4	1	25	85.186	0.026	0.026
Zachodniopomorskie	11908	3789	2848	0	0	0	0	75.165	0	0
Total	930436	310011	226576	12	12	2	16.667	73.086	0.005	0.005
Total - 1	882761	283823	258954	14	11	0	0	91.24	0.005	0.003

Footnote

Relation between herds planned to be tested and actually tested was 85,12%. Some of the herds were planned to be tested, but when the official veterinarians

visited them to perform tests they found there were no more animals present, or that there were no animals in the age over 12 months. Such problems result from the big number of herds (930436 estimated at the beginning of 2005) consisting of small number of animals in the whole country.
The real herd coverage was 73,09 %.

Table Bovine brucellosis - data on animals - Community co-financed eradication programmes

Region	Total number of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of new positive animals	Slaughtering		Indicators	
						Number of animals with positive result slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals - animal prevalence
Dolnoslaskie	146266	30854	28228	28228	0	0	22087	91.489	0
Kujawsko-Pomorskie	482981	101601	83822	83822	0	0	20902	82.501	0
Lubelskie	536912	143484	91770	91770	0	0	141015	63.958	0
Lubuskie	81450	18906	18215	18215	0	0	2341	96.345	0
Lodzkie	472857	100572	95072	95072	0	0	141797	94.531	0
Malopolskie	291674	86408	34250	34250	1	1	206635	39.638	0.003
Mazowieckie	1095811	453795	214138	214138	3	3	167735	47.188	0.001
Opolskie	136621	31109	31589	31589	2	2	7894	101.543	0.006
Podkarpackie	229290	50462	44697	44697	2	2	37136	88.576	0.004
Podlaskie	780279	169194	158796	158796	0	0	74724	93.854	0
Pomorskie	197722	50306	42881	42881	0	0	50067	85.24	0
Slaskie	145179	33036	27352	27352	0	0	71611	82.795	0
Swietokrzyskie	234204	60277	37105	37105	0	0	20465	61.557	0
Warminsko-Mazurskie	454921	107059	98764	98764	0	0	62279	92.252	0
Wielkopolskie	742689	164174	128021	128021	4	4	173424	77.979	0.003
Zachodniopomorskie	117767	22203	17358	17358	0	0	16994	78.179	0
Total	6146623	1623440	1152058	1152058	12	12	1217106	70.964	0.001
Total - 1	5649362	1377420	1264297	1249828	15	15	1280960		

Footnote

In Poland, number of herds and number of animals under official control means the number of herds and number of animals which should be covered by the official control every year. During the performance of the control concerned some of herds happens to include more animals then it was expected. Thus,the number of tested animals could be higher than the number of animals under the programme.

Table Bovine brucellosis - data on status of herds at the end of the period - Community co-financed eradication programmes

Region	Status of herds and animals under the programme													
	Total number of herds and animals under the programme		Unknown		Not free or not officially free				Free or officially free suspended		Free		Officially free	
					Last check positive		Last check negative							
	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals
Dolnoslaskie	5612	28228	0	0	0	0	0	0	0	0	0	0	5612	28228
Kujawsko-Pomorskie	11303	83822	0	0	0	0	0	0	4	90	0	0	11299	83732
Lubelskie	29521	91770	0	0	0	0	0	0	0	0	0	0	29521	91770
Lubuskie	2207	18215	0	0	0	0	0	0	0	0	0	0	2207	18215
Lodzkie	22780	95072	0	0	0	0	0	0	0	0	0	0	22780	95072
Malopolskie	17791	34250	0	0	1	1	0	0	0	0	0	0	17790	34249
Mazowieckie	35506	214138	0	0	1	37	2	60	0	0	0	0	35503	214041
Opolskie	4683	31589	0	0	0	0	0	0	2	330	0	0	4681	31259
Podkarpackie	25194	44697	0	0	0	0	0	0	1	2	0	0	25193	44695
Podlaskie	16000	158796	0	0	0	0	0	0	0	0	0	0	16000	158796
Pomorskie	5714	42881	0	0	0	0	0	0	0	0	0	0	5714	42881
Slaskie	8049	27352	0	0	0	0	0	0	0	0	0	0	8049	27352
Swietokrzyskie	15121	37105	0	0	0	0	0	0	0	0	0	0	15121	37105
Warminsko-Mazurskie	8710	98764	0	0	0	0	0	0	0	0	0	0	8710	98764
Wielkopolskie	15537	128021	0	0	0	0	0	0	2	167	0	0	15535	127854
Zachodniopomorskie	2848	17358	0	0	0	0	0	0	0	0	0	0	2848	17358
Total	226576	1152058	0	0	2	38	2	60	9	589	0	0	226563	1151371
Total - 1	258954	1264297	1	2	2	20	1	108	13	147	0	0	258937	1264020

Table Ovine or Caprine brucellosis - data on herds - Community co-financed eradication programmes

Region	Total number of herds	Total number of herds under the programme	Number of herds checked	Number of positive herds	Number of new positive herds	Number of herds depopulated	% positive herds depopulated	Indicators		
								% herd coverage	% positive herds period herd prevalence	% new positive herds - herd incidence
Kujawsko-Pomorskie	582	582	509	0	0	0	0	87.457	0	0
Dolnoslaskie	631	21	21	0	0	0	0	100	0	0
Lubelskie	261	261	261	0	0	0	0	100	0	0
Lubuskie	9	9	9	0	0	0	0	100	0	0
Lodzkie	213	213	213	0	0	0	0	100	0	0
Malopolskie	62343	209	209	0	0	0	0	100	0	0
Mazowieckie	62	62	62	0	0	0	0	100	0	0
Opolskie	136	6	6	0	0	0	0	100	0	0
Podkarpackie	220	71	71	0	0	0	0	100	0	0
Podlaskie	2504	65	65	0	0	0	0	100	0	0
Pomorskie	387	185	185	0	0	0	0	100	0	0
Slaskie	169	52	35	0	0	0	0	67.308	0	0
Swietokrzyskie	361	361	120	0	0	0	0	33.241	0	0
Warminsko-Mazurskie	412	110	23	0	0	0	0	20.909	0	0
Wielkopolskie	801	388	388	0	0	0	0	100	0	0
Zachodniopomorskie	0	0				0	0	0		
Total	69091	2595	2177	0	0	0	0	83.892	0	0
Total - 1		3406	1739	0	0	0	0	54.264	0	0

Table Ovine or Caprine brucellosis - data on animals - Community co-financed eradication programmes

Region	Total number of animals	Number of animals to be tested under the programme	Number of animals tested	Number of animals tested individually	Number of new positive animals	Slaughtering		Indicators	
						Number of animals with positive result slaughtered or culled	Total number of animals slaughtered	% coverage at animal level	% positive animals - animal prevalence
Dolnoslaskie	9826	628	628	628	0	0	994	100	0
Kujawsko-Pomorskie	21905	7770	7348	5239	0	0	55	94.569	0
Lubelskie	13920	6450	6450	6450	1	1	0	100	0.016
Lubuskie	517	155	155	155	0	0	0	100	0
Lodzkie	9403	9403	4757	4757	0	0	179	50.59	0
Malopolskie	68401	8439	8439	8439	0	0	384	100	0
Mazowieckie	3697	1423	1423	1423	0	0	543	100	0
Opolskie	1943	165	165	165	0	0	5	100	0
Podkarpackie	5049	1254	1254	1254	0	0	13966	100	0
Podlaskie	18944	1720	1720	1720	0	0	1720	100	0
Pomorskie	8309	1294	1294	1294	0	0	237	100	0
Slaskie	5307	1306	1012	1012	0	0	2	77.489	0
Swietokrzyskie	3295	925	720	720	0	0	28	77.838	0
Warminsko-Mazurskie	7170	1786	769	769	0	0	146	43.057	0
Wielkopolskie	29681	5495	5495	5495	0	0	184	100	0
Zachodniopomorskie	0	0					41	0	0
Total	207367	48213	41629	39520	1	1	18484	86.344	0.002
Total - 1		125370	40512		0	0	30085	32314	0

Table Ovine or Caprine brucellosis - data on status of herds at the end of the period - Community co-financed eradication programmes

Region	Status of herds and animals under the programme													
	Total number of herds and animals under the programme		Unknown		Not free or not officially free				Free or officially free suspended		Free		Officially free	
					Last check positive		Last check negative							
	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals
Dolnoslaskie	21	628									21	628		
Kujawsko-Pomorskie	582	7770	11	35	0								571	7735
Lubelskie	261	6450	0	0									261	6450
Lubuskie	9	155											9	155
Lodzkie	213	9403											213	9403
Malopolskie	209	8439									209	8439		
Mazowieckie	62	1423											62	1423
Opolskie	6	165											6	165
Podkarpackie	71	1254											71	1254
Podlaskie	65	1720											65	1720
Pomorskie	185	1294									185	1294		
Slaskie	52	1306											52	1306
Swietokrzyskie	361	3925	361	3925										
Warminsko-Mazurskie	110	1786											110	1769
Wielkopolskie	388	5495											388	5495
Zachodniopomorskie	0	0											0	0
Total	2595	51213	372	3960	0	0	0	0	0	0	415	10361	1808	36875
Total - 1														

2.7. YERSINIOSIS

2.7.1. General evaluation of the national situation

A. Yersinia enterocolitica general evaluation

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

Evaluation of trends and sources is impossible due to the lack of the examination results.

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

In Poland no official control examinations were carried out for detection of Yersinia enterocolitica in the foodstuffs of animal origin.

2.7.2. Yersinia in foodstuffs

2.7.3. Yersinia in animals

A. Yersinia enterocolitica in pigs

Control program/mechanisms

The control program/strategies in place

There was no active monitoring of yersiniosis of animals carried out in Poland.

2.8. TRICHINELLOSIS

2.8.1. General evaluation of the national situation

2.8.2. Trichinella in animals

Table Trichinella in animals

	Source of information	Sampling unit	Units tested	Total animals positive for Trichinella	T. spiralis	Trichinella spp., unspecified
Pigs		animal	20004294	36	36	
breeding animals						
unspecified						
sows and boars		animal	20004294	36	36	
Solipeds, domestic						
horses		animal	37021	0		
Wild boars						
wild		animal	91312	260	260	

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

In Poland there is no an examination program carried out among ultimate hosts of echincoccus or obligation to eradicate these parasites in dogs.
Testing for detection of echincoccus is a part of post-mortem inspection of the slaughter animals. It is a visual inspection of the internal organs of the slaughtered animals. The echincoccus is not distinguished by species.

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

In 2004 in 1 280 960 cattle slaughtered there were 140 cases of echincoccus, in 29 862 sheep-6 300 cases, in 223 goats-30, in 19 766 359 pigs-989 760 cases.
There were 996 230 cases of echincoccus diagnosed in the slaughter animals.
In 2003 there were 974 429 cases found, and in 2002-867 105, which indicated that there was a rising trend in the cases found in the slaughter animals,
(2005)
but in 2005, there were 46 cases among 1138273 cattle slaughtered and 484505 cases among pigs slaughtered.
There was none case of echonococcus in solipeds.

2.9.2. Echinococcus in animals

Table Echinococcus spp. in animals

	Source of information	Sampling unit	Units tested	Total units positive for Echinococcus spp.	E. granulosus	E. multilocularis	Echinococcus spp., unspecified
Cattle (bovine animals)	a	animal	1138273	46			46
Sheep	a	animal	18431	0			
Goats	a	animal	20	0			
Pigs	a	animal	17484312	484505			484505
Solipeds, domestic	a	animal	37551	0			
Dogs		animal	152	0			
Cats		animal	62	0			

Footnote

a-The report RRW-6 for 2005 for Ministry of Agriculture and Rural Development (a number of animals examined by the official veterinarians in the slaughterhouses)

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

There is no active monitoring of toxoplasmosis in animals carried out in Poland.
Sparse examination is the diagnostic tests carried out in domestic animals. It is not possible to estimate trends in the spreading of the disease.

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

(2005)
There was none case of toxoplasmosis in tested animals.

2.10.2. Toxoplasma in animals

Table Toxoplasma in animals

	Source of information	Sampling unit	Units tested	Total units positive for Toxoplasma
Cattle (bovine animals)	a	animal	31	0
Solipeds, domestic	a	animal	10	0
Dogs	a	animal	154	0
Cats	a	animal	145	0
Other animals	a	animal	143	0

Footnote

a-the results obtained from regional veterinary laboratories

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

In the interwar period and in the first years after the World War II, urban rabies dominated on the Polish territory , and the main vector of rabies were dogs. Strict control of the population of stray dogs and the introduction (since 1949) of an obligatory vaccination against rabies caused adaptation of virus to the new host, namely red fox. Universality of a new host, as in other European countries, led to a spread of so-called forest rabies. Irrespective of the above, the vaccinations reduced this disease in Poland to a great extent. In 1946, 3600 cases of rabies in animals were found, and in 1956 this number decreased to 73 cases. In the same period from 1 to 6 cases of rabies among wild animals were notified. In the following years, the increase of infection was noticed, in particular, in foxes. At the end of the seventies, the infections exceeded the number of infections in domestic animals. After the World War II the wave of infections shifted in the south-western direction with the average speed of 30-60 km per year. The first conceptions how to limit the number of rabies cases in foxes were to decrease the density of red fox population to a level of 0.5-0.3 animal/km. Many restrictions and imperfections of this method were the reasons to look for other methods of rabies eradication. Introduction of oral immunization of foxes was a turning point. In Poland, similar to Baltic states, an increasing number of rabies cases in raccoon dogs was observed. The description of the disease in numbers does not objectively present the risks, which are associated with rabies. The small number of cases must be examined with consideration of an area on which the infections took place.
In 1990, in Poland there were 2045 cases of rabies, including 1668 cases among wild animals (1374 cases in foxes). The biggest numbers of rabies cases was noticed in poznanskie (157), opolskie (139), koszalinskie (133), szczecinskie (130), bydgoskie (123), slupskie (103) region. There were no cases in bialskopodlaskie region and there were single cases in lubelskie, lomzynskie, lodzkie and przemyskie region.
In 1991, 2287 cases of rabies were found, including 1864 in wild animals (1513 cases in foxes). Rabies was not found in lubelskie region and single cases were in przemyskie, lodzkie, lomzynskie and krosnienskie region.
In 1992r, in Poland the biggest number of 3084 cases of rabies was stated, including 2549 cases among wild animals (2079 cases in foxes). Due to this fact, in 1993, on the whole territory of Poland, an action of oral vaccination of living foxes against rabies was initiated.

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

In 1993, 2648 cases of rabies were stated, including 2166 in wild animals (1803 cases in foxes). In the subsequent years the following was found:
-In 1994-2238 cases of rabies in animals, including cases in wild animals - 1788 (1506 cases in foxes).
-1995-cases of animals, including 1528 cases of wild animals (including 1280 in foxes).
-In 1996: 2577 cases in animals, including 2064 cases in wild animals (including 1779 cases in foxes).
-- 1997, 1494 cases in animals, including 1239 cases in wild animals (including 1091 cases in

foxes).
The result of the vaccinations carried out in the western part of Poland was a visible decrease of cases of rabies and even more satisfactory was lack of this infection for a long time in the regions: zachodniopomorskie, lubuskie and dolnoÅ›lÄ…skie. In 1998, 1329 cases in animals were found, including 1120 cases in wild animals (including 927 in foxes), in 1999-1148 cases in animals, including 721 in foxes, in 2000 there were 2224 cases found, including 1583 in foxes and in 2001 there were 2964 cases found, including 224 in foxes. In 2002 rabies was found in 1119 animals, including 1038 cases found in wild animals (884 in foxes). The list of cases of rabies in domestic animals in 1983-2000 shows that the biggest percentage was found in cattle and next in cats and dogs. Increase in the number of cases of rabies in the short time influences the increase of the number of cases in cats, which are the indicators of the disease in foxes on a given territory. Rabies in cattle is associated with putting them out in pasture. Currently, the most serious problem of rabies is the eastern border of Poland, where the transmission of rabies from the territories of Ukraine, Belarus and Russia is visible. Poland does not have detailed information on vaccination actions against rabies carried out in the above mentioned countries.

Recent actions taken to control the zoonoses

Pursuant to the Act of 11 March 2004 on animal health protection and eradication of infectious animal diseases (Journal of Laws, No 69, item 625), rabies is an infectious animal disease subject to obligatory eradication.
Since 2002 protective rabies vaccination of free-living foxes are carried out in whole country, twice a year, in the spring and autumn action, by dropping vaccinations from the plane or spreading them manually in the territory of forests and everywhere where the free-living foxes can be found (the ordinance of the Minister of Agriculture and Rural Development of 2002 June 30 on conducting obligatory protective rabies vaccinations of free-living foxes, Journal of Laws of 2003 No 8, item 100). The vaccination may be applied once a year, if on the territory of the region and neighbouring regions there were no cases of rabies in the period of the following two years. Number of doses of vaccination used for protective vaccination of foxes depends on the degree of afforestation, population of wild animals, however, currently, pursuant to the ordinance it shall not be smaller than 20 doses for km2 of the area.
The institution responsible for carrying out vaccination actions of free-living fixes is the Ministry of Agriculture and Rural Development (The Department of Food Safety and Veterinary Medicine).
Monitoring test of the efficiency of oral immunization of foxes is carried out while using the following methods:
- immunofluorescence of brain imprints-test for rabies,
- bone grinding from mandible-test for the presence of tetracycline (TC),
- RFFIT test-defining the name for the virus of rabies in blood serum (clot from the heart or liquid from the thoracic cavity),
- collection, preparation and analysis of epidemiologic data on cases of rabies diagnosed in the territory where the vaccination was placed,
- differentiation of strains in the aspect of wild-type strain: vaccination strain
- genotyping of strains.

2.11.2. Lyssavirus (rabies) in animals

A. Rabies in dogs

Vaccination policy

Pursuant to the provision of Article 56 of the Act on protection of animal health and eradication of animal infectious diseases (Journal of Laws, No 69 item 625 of 2004), dogs over 3 months old, living in the territory of the whole country and free-living foxes, shall be subject to obligatory preventive vaccination against rabies.

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

Preventive vaccination of dogs influenced the reduction of the number of cases of rabies in the animals of the same species. Currently, the confirmed cases are present in dogs which were not immunized against rabies. Despite a small number of infections of the same species, 50% of all exposures of humans to infection and post-exposure vaccinations in humans is connected with dogs.
There were 4 cases of rabies in dogs in 2004 and 5 cases of rabies in 2005.
Besides, in 2005, there were 23 cases of rabies in cattle, 1 case in horse, 7 in cats, 84 in foxes, 10 in raccoon dogs,3 in badgers and 1 case in marten.

Additional information

Routine diagnosis of rabies in animals of all species is carried out in 16 regional diagnostic laboratories (Veterinary Hygiene Laboratories) and in the reference laboratory (Department of Virology of the National Veterinary Institute in Pulawy).
Applied tests:
- direct immunofluorescence (FAT test) of mind imprints with monovalent antiantinucleocapsid conugate
- virus isolation on mice (MIT mouse isolation test)
- virus isolation in neuroblastoma cell farming
- genotyping of isolates of rabies virus (only reference laboratory)
- serological test-RFFIT test.

Table Rabies in animals

	Source of information	Sampling unit	Units tested	Total units positive for Lyssavirus (rabies)	unspecified lyssavirus
Cattle (bovine animals)	NRL	animal	132	23	
Sheep	NRL	animal	3	0	
Goats	NRL	animal	8	0	
Pigs	NRL	animal	3	0	
Solipeds, domestic					
horses	NRL	animal	7	1	
Dogs	NRL	animal	949	5	
Cats	NRL	animal	1137	7	
Bats					
wild	NRL	animal	73	4	
Foxes					
wild	NRL	animal	1685	84	
farmed	NRL	animal	1	0	
Raccoon dogs					
wild	NRL	animal	175	10	
Wolves					
wild	NRL	animal	1	0	
Badgers					
wild	NRL	animal	53	3	
Marten					
wild	NRL	animal	213	1	
Wild boars					
wild		animal	15	0	
Deer		animal	14	0	
wild					
roe deer	NRL		429	0	
red deer	NRL	animal	19	0	
fallow deer	NRL	animal	2	0	
Rabbits					

farmed	NRL	animal	11	0	
Rodents					
wild	NRL	animal	18	0	
pet animal	NRL	animal	124	0	
Fur animals	NRL	animal	69	0	
Hares	NRL	animal	21	0	
Squirrels	NRL	animal	134	0	
Other mustelides					
wild	NRL	animal	21	0	
Hedgehogs					
wild	NRL	animal	41	0	
Birds					
wild	NRL	animal	3	0	
Beavers					
wild	NRL	animal	5	0	
Other carnivores					
wild	NRL	animal	5	0	
Other animals	NRL	animal	2	0	

3. INFORMATION ON SPECIFIC INDICATORS OF ANTIMICROBIAL RESISTANCE

3.1. ESCHERICHIA COLI, NON-PATHOGENIC

3.1.1. General evaluation of the national situation

A. E. coli general evaluation

History of the disease and/or infection in the country

In Poland no permanent monitoring of antimicrobial resistance of indicatory bacteria originating from animals. Data on this subject included in the report are the results of the tests within the frame of multiannual programme 2003-2008 "Protection of animal and public health"(National Veterinary Research Institute).

Additional information

In 2004 - It was stated that the highest antimicrobial sensitivity is shown by isolates derived from cattle (84.24%) and in turn from turkeys (67.39%), geese (54.17%), pigs (53.6%) and hens (19.35%). The highest resistance, to 3 or more antibiotics was found in isolates derived from hens (29.03%). In the remaining isolates the resistance was found in turkeys (10.87%), geese (2.08%), cattle (1.09%) and pigs (1.08%).
In 2005 - The highest number of strains sensitive to all tested antimicrobials was found in cattle (82.7%), geese (69.4%) and pigs (51.7%%). The highest resistance was observed in Gallus gallus isolates (79.5%). Multiresistance (resistance to 3 or more antimicrobials) rate ranged from 3.3% in cattle isolates to 42.5% in Gallus gallus isolates.

3.1.2. Escherichia coli, non-pathogenic in animals

A. E.coli in animal

Monitoring system

Sampling strategy

In 2005:
Healthy animals at slaughter were sampled in selected slaughter-houses located in different regions of Poland. Rectal swabs were taken from cattle and swine. In poultry (Gallus gallus, geese and turkeys) caeca were sampled. Two hundred and twenty isolates from cattle, 344 from swine, 73 from Gallus gallus, 24 from turkeys and 36 from geese were isolated and tested with disc diffusion method according to CLSI (formerly NCCLS) standards.

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

The highest number of strains sensitive to all antimicrobials tested was found in cattle (84%) and turkeys (67%). The highest resistance was observed in the strains isolated from Gallus gallus of which 67% were multiresistant (resistant to 3 or more animicrobials).

Additional information

3.1.3. Antimicrobial resistance in Escherichia coli, non-pathogenic isolates

Table Antimicrobial susceptibility testing of E. coli in Cattle (bovine animals) - at slaughterhouse - Monitoring - Monitoring survey (research project run at NVRI) - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	E. coli Cattle (bovine animals) - at slaughterhouse - Monitoring - monitoring survey (research project run at NVRI)
Isolates out of a monitoring programme	yes
Number of isolates available in the laboratory	220

Antimicrobials:	**N**	**n**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**
Tetracyclines	220	16	12	1	1	1			1				1			2		5	14	13	27	21	69	17	8	4	1	6	9	2	2	3
Amphenicols																																
Chloramphenicol	215	2	2															1	1	8	17	22	42	40	50	21	5	5	1			
Cephalosporins																																
Cefuroxim	220	1		1												1	12	18	38	56	43	26	15	9	1							
Fluoroquinolones																																
Ciprofloxacin	144	0																							1	1		1	7	4	8	111
Enrofloxacin	220	2				1			1													1	1	1	1	3	10	26	49	8	2	112
Quinolones																																
Nalidixic acid	220	4	2	1			1						1				2	1	6	8	17	41	81	27	14	6	4	2	3	1		2
Trimethoprim	219	6	5	1				1				2										4	20	30	35	43	26	25	15	1		11
Sulfonamides																																
Sulfonamide	220	8	7			1				1			1					1			1	3	17	9	16	19	27	29	40	8	2	37
Aminoglycosides																																
Streptomycin	219	8	5	2		1			1	1	4	15	31	61	58	25	8	3	1	1	1		1									
Gentamicin	220	0												1	3	17	101	53	25	14	3		3									
Kanamycin	144	1	1												1		16	26	53	29	9	5	2		1	1						
Trimethoprim + sulfonamides	220	8	8																2	2		2	3	8	11	25	25	35	42	8	6	42
Penicillins																																
Ampicillin	220	15	12	2				1				4	7	10	21	32	53	24	24	8	10	8	2	1								

Table Antimicrobial susceptibility testing of E. coli in Gallus gallus (fowl) - unspecified - at slaughterhouse - Monitoring - Monitoring survey (research project run at NVRI) - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	E. coli
	Gallus gallus (fowl) - unspecified - at slaughterhouse - Monitoring - monitoring survey (research project run at NVRI)
Isolates out of a monitoring programme	yes
Number of isolates available in the laboratory	73

Antimicrobials:	**N**	**n**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**
Tetracyclines	73	34	19	3	1	9				2		1			1		1		1	2	4	5	11	2	3	3	3		2			
Amphenicols																																
Chloramphenicol	73	4	2		1	1								1				1		4	7	7	16	10	6	6	1		4			6
Cephalosporins																																
Cefuroxim	73	0															4	6	10	14	10	10	8		2	4	1	1	1			2
Fluoroquinolones																																
Ciprofloxacin	58	15			1	2	3		4	4	1	1								2	2	3	1	6	5	1	2	2	1	1	15	
Enrofloxacin	72	2	3		1	6	4		1	1				1	3		2		1	3	4	4	5	1	3		2	4	4		1	18
Quinolones																																
Nalidixic acid	72	41	34		1	5		1								1			1	3	4	2	6	3		1	1		2			3
Trimethoprim	72	11	10			1								1			1	1	3	1	2	1	7	5	8	7	7	9	1	3		4
Sulfonamides																																
Sulfonamide	72	23	23							1						1	2			1	5		4	6	4	4	2	2	7	1	1	8
Aminoglycosides																																
Streptomycin	73	34	27	1	1	2		3	2	2	3	2	4	12	7	4	1	1						1								
Gentamicin	73	1	1								3	2	2	2	1	4	26	19	6	5	2											
Kanamycin	59	7	7									1			5		5	10	13	8	7	2	1									
Trimethoprim + sulfonamides	72	22	21		1										2		1	2	1	3	5	1	3	1	2	4	7	4	6			7
Penicillins																																
Ampicillin	73	40	40											3	4	4	8	4	3	2	1	2	1				1					

Table Antimicrobial susceptibility testing of E. coli in Pigs - at slaughterhouse - Monitoring - Monitoring survey (research project run at NVRI) - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	E. coli
	Pigs - at slaughterhouse - Monitoring - monitoring survey (research project run at NVRI)
Isolates out of a monitoring programme	yes
Number of isolates available in the laboratory	344

Antimicrobials:	**N**	**n**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**
Tetracyclines	342	71	47		2	13	5	2	1		1					1	2	3	7	14	22	30	65	25	11	10	7	18	34	6		15
Amphenicols																																
Chloramphenicol	344	14	8			4	2					1					1	2	5	4	10	15	69	81	69	39	17	10	5			2
Cephalosporins																																
Cefuroxim	342	3	1						2				1		1	8	22	34	67	60	72	57	9	5	1	1						1
Fluoroquinolones																																
Ciprofloxacin	191	8				2	1		2	2	1														1	3	1	1	5	3		159
Enrofloxacin	341	8				4	1													5	3	2	1				7	32	70	6	6	195
Quinolones																																
Nalidixic acid	344	21	17		2		1	1										4	5	13	32	42	107	41	31	31	8	8	1			
Trimethoprim	342	22	22								1	1	1							2		4	32	34	59	43	58	30	32	4	2	15
Sulfonamides																																
Sulfonamide	343	67	57		1	7	1	1					1						1	1	3	9	35	16	22	21	33	32	29	7	1	62
Aminoglycosides																																
Streptomycin	344	105	42	1	4	35	12	11	4	6	8	22	34	89	46	18	3	2	5	1					2							
Gentamicin	344	7	4		1			1	1	1	2	1		2	5	20	158	75	44	21	3		4		1	1						
Kanamycin	189	5	5											1	1	3	20	46	49	43	13	2	2	1	1	2						
Trimethoprim + sulfonamides																																
Trimethoprim + Sulfonamide	344	43	41	2												1			4	5	13	32	42	107	41	31	31	8	8	1		
Penicillins																																
Ampicillin	344	31	25		1	2	2	1			1	2	6	11	14	40	77	41	39	43	22	9	6	1				1				

Table Antimicrobial susceptibility testing of E. coli in Turkeys - at slaughterhouse - Monitoring - Monitoring survey (research project run at NVRI) - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	E. coli
	Turkeys - at slaughterhouse - Monitoring - monitoring survey (research project run at NVRI)
Isolates out of a monitoring programme	yes
Number of isolates available in the laboratory	24

Antimicrobials:	**N**	**n**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**
Tetracyclines	24	11	6	1	1	2	1													3		3	1				2		3			1
Amphenicols																																
Chloramphenicol	24	1				1															1		1	6	6	5	4					
Cephalosporins																																
Cefuroxim	24	0																3	3	9	4	5										
Fluoroquinolones																																
Ciprofloxacin	20	0																											1			19
Enrofloxacin	24	0																				1	1	1				2	4		1	14
Quinolones																																
Nalidixic acid	24	3	3																1	1	3	7	3	1	2	2	1					
Trimethoprim	24	3	2				1		1				1			1							1	1		3	5	1	2	2		3
Sulfonamides																																
Sulfonamide	24	10	8		1		1			1				1							1			1	1	1	1		1	1		5
Aminoglycosides																																
Streptomycin	24	5	2			1		2	3				3	3	6	1		1		1			1									
Gentamicin	24	2				1		1		1							9	6	1		1	1	3									
Kanamycin	20	1	1														3	3	4	3	2		4									
Trimethoprim + sulfonamides	24	3	1	1			1					1		1					1								5	1	4			8
Penicillins																																
Ampicillin	24	6	6											1	2	2	5	4	4													

Table Antimicrobial susceptibility testing of E. coli in animals

n = Number of resistant isolates

	E. coli									
	Cattle (bovine animals)		**Pigs**		**Gallus gallus (fowl)**		**Turkeys**		**Other animals**	
Isolates out of a monitoring programme	yes		yes		yes		yes		yes	
Number of isolates available in the laboratory	220		344		73		24		36	
Antimicrobials:	**N**	**n**	**N**	**n**	**N**	**n**	**N**	**n**	**N**	**n**
Tetracyclines	220	16	342	71	73	34	24	11	34	6
Amphenicols										
Chloramphenicol	215	2	344	14	73	4	24	1	36	3
Cephalosporins										
Cefuroxim	220	1	342	3	73	0	24	0	34	0
Fluoroquinolones										
Ciprofloxacin	144	0	191	8	58	15	20	0	36	0
Enrofloxacin	220	2	341	8	72	16	24	0	33	0
Quinolones										
Nalidixic acid	220	4	344	21	72	41	24	3	36	8
Trimethoprim	219	6	342	22	72	11	24	3	34	2
Sulfonamides										
Sulfonamide	220	8	343	67	72	23	24	10	36	8
Aminoglycosides										
Streptomycin	219	8	344	105	73	34	24	5	36	7
Gentamicin	220	0	344	7	73	1	24	2	33	0
Kanamycin	144	1	189	5	59	7	20	1	36	1
Trimethoprim + sulfonamides	220	8	344	43	72	22	24	3	36	2
Penicillins										
Ampicillin	220	15	344	31	73	40	24	25	36	5
Fully sensitive		182		178		15		11		25
Resistant to 1 antimicrobial		19		108		13		5		2
Resistant to 2 antimicrobials		12		27		14		3		2
Resistant to 3 antimicrobials		3		17		14		0		5
Resistant to 4 antimicrobials		3		6		8		2		2
Resistant to >4 antimicrobials		1		8		9		3		0

Table Antimicrobial susceptibility testing of E. coli in Geese - at slaughterhouse - Monitoring - Monitoring survey (research project run at NVRI) - quantitative data [Diffusion method]

Number of resistant isolates (n) and number of isolates with the concentration (µl/ml) or zone (mm) of inhibition equal to

	E. coli
	Geese - at slaughterhouse - Monitoring - monitoring survey (research project run at NVRI)
Isolates out of a monitoring programme	yes
Number of isolates available in the laboratory	36

Antimicrobials:	**N**	**n**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**
Tetracyclines	35	6	5			1													2	7	5	10	5									
Amphenicols																																
Chloramphenicol	36	3	2		1																4	3	4	9	3	6	1	3				
Cephalosporins																																
Cefuroxim	34	0																4	7	11	6	4	1			1						
Fluoroquinolones																																
Ciprofloxacin	36	0																					1		3	2	2	2	1	2		23
Enrofloxacin	33	0													1		2		2		2	1				1		2	5	3		14
Quinolones																																
Nalidixic acid	36	8	6			2								1				1	1	2	2	6	11	2	1	1						
Trimethoprim	34	2	2																		1	2	9	3	6	3	4	1	1			2
Sulfonamides																																
Sulfonamide	36	8	8																				1	4	3		7	3	4	1		5
Aminoglycosides																																
Streptomycin	36	7	4	1				2		1		3	6	3	10	4		1			1											
Gentamicin	33	0,0												2		7	16	6		1	1											
Kanamycin	36	1	1													1	7	8	9	6	3	1										
Trimethoprim + sulfonamides	36	2	1	1																	1	2	2	2	1	7	8	5	3			3
Penicillins																																
Ampicillin	36	5	5										1	4	2	6	8	3	2	5												

Table Breakpoints used for antimicrobial susceptibility testing of E. coli in Animals

Test Method Used

Disc diffusion
Agar dilution
Broth dilution
E-test

Standards used for testing

NCCLS

Escherichia coli, non-pathogenic	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 <=
Tetracyclines								14	17	19
Amphenicols										
Chloramphenicol								12	15	18
Florfenicol										
Fluoroquinolones										
Ciprofloxacin								15	18	21
Enrofloxacin								16	20	23
Quinolones										
Nalidixic acid								13	16	19
Trimethoprim								10	13	16
Sulfonamides										
Sulfonamide								12	15	17
Aminoglycosides										
Streptomycin								11	13	15
Gentamicin								12	13	15
Neomycin										
Kanamycin								13	15	18
Trimethoprim + sulfonamides								10	13	16
Cephalosporins										
Cefuroxim	NCCLS							14	16	18
3rd generation cephalosporins										
Penicillins										
Ampicillin	NCCLS							13	15	17

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.

A. Foodborne outbreaks

Description of the types of outbreaks covered by the reporting:

(2005)Data on the subject of foodborne outbreaks cover cases, in which infection occurred of 2 or more people related to each other with the source of infection. Different definition of an outbreak was in force in Polish regulations by mid 2004.

Additional information

Registration of the alimentary infections and intoxications (with detection of food infections outbreaks and intestinal salmonelloses with separation on the individual serotypes Salmonella spp.) is good (satisfactory and sensitive epidemiological surveillance of these disorders). Finally, the 76 Salmonella spp. Serotypes were detected as a cause of foodborn intestinal infections of men - and submitted to the national Reference Salmonella Laboratory (Head: Prof. R. Glosnicka M.D. Ph.D).
(Singapore - 1, Santtembery - 1, Anatum - 1, EO - 2, Invernes - 1, BO - 3, Ngor - 2, Molade - 1, Schwarzengr - 1, Azteca - 1, Arizonae - 2, Menchester -1, Tokoradi - 1, Bandenburg - 2, Malade - 1, Noya - 1, Schleissheim - 3, Elizabethville - 1, Dessan - 1, Vernigerodo - 1, Muenster -1, Augustenborg - 1, Livingstone - 1, Stanley - 1, Rissen - 1, London - 2, Glostrup - 1, Chile -1, Albany - 3, unknown serotypes - 7, Manhattan - 2, Barelly - 1, straim rough - 1, Gagliema - 1, Haardt - 1, Welterweden - 1, Istambul - 1, Isangi -3, Fayed - 1, Montevideo - 4, Ride - 1, Gallinarum pullorum - 4, Tennessee - 4,
Sandiego - 1, Bilu -1, Coleraesuis - 6, Norwich - 1, Indiana - 23, DO - 9, CO - 11, Cottbus - 38, Saintpaul - 16, Bredeney - 5, Heidelberg - 3, Tshiongwe - 9, D - 12, Luanda - 1, Reading - 1, Species - 534, Potsdam - 1, Thompson - 15, Senftenbery - 3, Chester - 6, Braenderup - 5, Derby - 13, Blochery - 4, Blegdam - 1, Newport - 24, B - 7, C - 42, Agona - 21, Mbandaka - 29, Virchow - 199, Oranienburg - 3, Infantis - 332, Hadar -280)

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
Staphylococcus	15	3	357	0	114	food			epidemiological evidence, laboratory confirmed	household, hospital, institution	
Unknown	34	46	824	0	253	food				hotels, institutions	
Streptococcus	4	1	65	0	24	food, unknown	x		epidemiological evidence	institutions, hotels	
Salmonella - S. Enteritidis	63	254	3119	0	1118	food			epidemiological evidence; laboratory confirmed	household; institutions	
Salmonella - S. Hadar	1	5	27	0	14	eggs, meat			epidemiological evidence	household	
Listeria - L. monocytogenes	2	0	116	0	2	meat and unknown		x	laboratory confirmed	institutions	
Bacillus - B. cereus	1	2	44	0	8	food		x	laboratory confirmed	restaurant, household	
Clostridium - C. botulinum	0	3	9	0	9	meat	x		epidemiological evidence	household	
Shigella - S. sonnei	0	3	9	0	9	carrier, unknown				household	
Shigella - S. flexneri	1	0	13	0	13	unknown				institutions	
Food borne viruses - calicivirus (including norovirus)	1	0	27	0	0	unknown				institutions	
Food borne viruses - adenovirus	3	2	49	0	8	unknown			epidemiological evidence	institutions	
Food borne viruses - rotavirus	1	8	40	0	21	food				hotels, institutions	
Salmonella - S. Infantis	1	2	59	0	7	food			laboratory confirmed	hausehold, institutions	
Salmonella - S. Virchow	0	4	31	0	16	salmon, poultry meat	x		epidemiological evidence	household	
Klebsiella - K. pneumoniae	1	0	22	0	0	carriers		x	laboratory confirmed	institutions	
Salmonella - S. group C1	0	1	2	0	1	food		x	laboratory confirmed	household	
Salmonella - S. Kottbus	2	0	27	0	6	poultry meat		x	laboratory confirmed	institutions	
Salmonella - S. Typhimurium	4	10	74	1	51	food			epidemiological evidence; laboratory confirmed	household, institutions	

Escherichia coli, pathogenic - E. coli spp., unspecified	8	5	173	1	33	food, unknown	x	x	laboratory confirmed	household, hospital, institutions,,restaurant
Proteus - P. vulgaris		1	3	0	1	cheese		x	laboratory confirmed	household