

COMMISSION OF THE EUROPEAN COMMUNITIES

**SECOND REPORT FROM THE COMMISSION
TO THE COUNCIL AND THE EUROPEAN PARLIAMENT
ON THE STATISTICS ON THE NUMBER OF ANIMALS USED FOR
EXPERIMENTAL AND OTHER SCIENTIFIC PURPOSES
IN THE MEMBER STATES OF THE EUROPEAN UNION**

CONTENTS

I. INTRODUCTION	3
II. STATISTICS.....	4
1. General.....	4
2. Structure of the report.....	5
3. Compilation and interpretation of the data.....	6
A. Data forwarded	6
B. Species and number of animals used.....	8
C. Purposes of the procedures.....	19
D. Toxicological and safety evaluations : kind of products.....	26
E. Number of animals used in procedures for studies on human and animal diseases : types of diseases versus species.....	28
4. Situation in the Member States.....	30
Belgium	30
Denmark.....	40
Germany.....	51
Greece	56
Spain.....	62
France.....	68
Ireland	78
Italy	86
Luxembourg.....	90
Netherlands.....	92
Austria.....	95
Portugal.....	98
Finland.....	108
Sweden.....	114
United Kingdom.....	123

I. INTRODUCTION

The objective of this report is to present to the Council and the European Parliament, pursuant to Article 26 of Directive 86/609/EEC¹, the statistical data on the number of animals used for experimental and other scientific purposes in the Member States of the European Union.

This report follows the first report, COM (94) 195 final, published in 1994 on the statistics on animals used in the Member States in 1991².

Directive 86/609/EEC does not specify a format nor the level of detail for the statistical data. However, in order to be able to consolidate a meaningful report on the EU situation the data needs to be presented in a harmonised manner. In 1997 after several years of discussion the national authorities competent for this Directive agreed on a uniform set of statistical tables (later in this report referred to as “EU tables”). These tables are being implemented in 1998 for the data collection to start in January 1999.

A similar reporting is required of the parties to the Council of Europe Convention ETS 123 on the protection of vertebrate animals used for experimental and other scientific purposes. The Convention defines a set of five tables for the statistical data collection (later referred to as “Convention tables”).

Therefore, the data submitted for this report follow various different formats. In addition to the two formats described above, national formats (later referred to as “national tables”) have been used by some Member States as well as formats used before the final set of tables which were agreed in 1997 (later referred to as “preceding tables”).

The most frequently used format is that of the Council of Europe Convention ETS 123. Two Member States, namely France and Sweden, have already succeeded in introducing the uniform “EU tables” for this report.

The next report to the Council and the European Parliament, which will be available in the year 2000, will be based on the uniform data as agreed by the Member States in 1997.

¹ O.J. Nr L358, 18.12.1986, p.1

² see also section 2.1 p.4

II. STATISTICS

1. General

Each Member State is requested, pursuant to Articles 13 and 26 of Directive 86/609/EEC, to submit to the Commission the statistical data on the animals used for experimental and other scientific purposes. This report contains data from the year 1996 with the exception of one Member State which reports data of 1997³.

Council Resolution 86/C331/02⁴ allows the use of animals in experiments for education and training, but where the purposes of such experiments are not covered by the Directive i.e. they are not experimental or scientific in the sense of the Directive, Member States will according to the Resolution apply national provisions which are no less severe than those of the Directive. Therefore a number of Member States have also included animals covered by this Resolution in the report.

The aim of this report is to provide a general overview of the EU situation as an intermediate tool before the year 2000 when the first harmonised report will be published by the Commission. The compilation of the data was not an easy task bearing in mind the different ways in which the data were provided. Nevertheless, an attempt was made to provide some indication as to which species and for what purposes these animals are used in the EU.

For the interpretation of these data several factors have to be noted

- The previous report published in 1994 covered the year 1991, with two exceptions. Thus the summary table at EU level consisted of a mixture of data from the years 1990, 1991 and 1992. No data was provided by Belgium and Luxembourg.
- Three new Member States, namely Austria, Finland and Sweden who joined the EU since the publication of the previous report have now submitted their data for the first time.
- A number of Member States have changed the reporting criteria since the previous report. Consequently, no comparison is possible between these two sets of national data.
- Some Member States also report on animals which are from areas beyond the scope of the Directive and the Resolution, e.g. production of harmful mutant and transgenic animals. Therefore comparison of the total numbers from different Member States is not possible.

The total number of animals⁵ in this report amounts to 11.6 million animals. For the reasons previously stated it should be emphasised that the total number as such has relatively little significance. In addition, this number consists of a variety of animal species of highly different nature such as cold-blooded animals like fish as well as

³ see page 68, paragraph 6

⁴ O.J. Nr C331, 23.12.86, p. 2

⁵ including 1997 data from France

superior mammals like non-human primates. The readers are invited to further examine the distribution between the different groups of species on page 13.

Taking all these factors into account one should be very cautious in making any conclusion or comparisons with the results presented in this report. Furthermore, no attempts should be made to compare the finding of this report with the report of 1994.

Nevertheless, some general observations can be made from a statistical point of view. These can be found in their relevant section under part 3 “Compilation and interpretation of the data” of II Statistics.

2. Structure of the report

The present report consists of two parts.

- The first part contains a global compilation for the European Union of the same statistical data provided by each Member State for 1996 except for France⁶ who is reporting data of 1997 (point 3. “Compilation and interpretation of the data”).

Despite the fact that one Member State has reported data for 1997, this report is intended to give credit for the effort made by all the Member States to report statistical data on animals used for experimental and other scientific purposes.

In order to achieve this objective, a series of table “*bis*” have been computed to take into account data submitted for 1996 and 1997. The readers are invited therefore to consider also tables 2 *bis*, 3 *bis* and 4 *bis* even though these tables are not correct from a statistical point of view and should therefore not be used for comparison purposes.

- The second part contains the relevant extracts of the data as submitted by Member States. For those Member States which included comments or conclusions with their data, the present report also contains a summary of these comments.

⁶ see page 68, paragraph 6

3. Compilation and interpretation of the data

A. Data forwarded

The first table, showing the data provided by each Member State has been prepared to demonstrate which tables could be compiled for the European Union for 1996 (table 1 on next page).

Fourteen Member States reported the data for the year 1996.

The compilation and the interpretation of the data were voluntarily limited to the parameters which were reported by at least 9 Member States :

- ⇒ the kind⁷ and number of animals used (14 Member States);
- ⇒ the number of animals versus the purpose of the procedure (13 Member States);
- ⇒ the number of animals used in toxicological and other safety evaluations : type of product tested versus species (11 Member States);
- ⇒ the number of animals used in procedures for studies on human and animal diseases : type of diseases versus species (9 Member States).

Given that there maybe additional national requirements regarding the reporting of animals used for experimental purposes, data provided to the Commission for the purposes of this report do not necessarily represent the full extent of the national statistics.

Some Member States which have used no animals for a specific purpose have omitted this purpose rather than reporting zero use. However, this does not mean that such purpose is not considered by the Member States in question.

When looking at the tables and graphical presentations presented below, one should always bear in mind these limitations in the data availability; it is therefore not possible to draw precise conclusions for the whole European Union.

⁷ Kind : covers not only species but groups

B. Species and number of animals used

The data

The details concerning the kind of animals used vary greatly from Member State to Member State.

Several Member States report groups of species, like “rodents and rabbits”, or “dogs and cats”.

Other Member States report very detailed information, giving the name of the species (e.g. “Quail : other species than *IO coturnix*”).

A particular problem concerning the zoological classification of the species was encountered : some classification systems place the Gibbons (*Hylobates hoolock*, *H. lar*, *H. syndactylus*, etc.) in the separate family of the Hylobatidae, which some naturalist would even exclude from the Anthroipoidea.

In order to handle these differences in the richness of the data details, a table was prepared to present all the figures reported by the Member States (table 2).

Some Member States reported species for which no animal was used.

- Chinese Hamsters (*Cricetulus griseus*)
- Camelids
- Other ungulates (not otherwise specified)
- Lemuridae
- New World Monkeys (not otherwise specified)
- Gibbons
- Pongidae (not otherwise specified)
- Octopus
- Cephalopods

To avoid confusion, these entries were not reported in Table 2.

In addition to the name of the species or group of species foreseen in the EU tables, more detailed data were introduced as needed, as well as the groups of species reported by some Member States. In table 2, the abbreviation “N.O.S.” means “not otherwise specified”.

Totals and sub-totals were also calculated (like “total rodents + lagomorphs”) in order to provide a way to compare the data, at least for a certain level of grouping.

Table 2

Number and kind of animals used in procedures in 1996																		
Country:		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	Totals	
	Animals:																	
	Mice	430,172	194,257	729,612	9,689	231,949		26,735	379,327	1,000	244,799		34,851	36,244	131,496	1,501,735	3,951,866	
	Rats	211,785	92,685	415,766	5,523	192,848		24,474	595,407		226,659		6,939	36,316	118,404	687,323	2,614,129	
	Guinea-Pigs	40,656	11,907	50,059	1,280	26,824		1,531	57,850		11,956		3,090	1,904	10,807	103,273	321,137	
	Golden Hamsters (Mesocricetus auratus)													40	551		591	
N.O.S.	Hamsters	3,570	224						1,842				517			9,898	16,051	
Sub-Total	Total Hamsters	3,570	224						1,842				517	40	551	9,898	16,642	
	Gerbils	10,845						118								7,649	18,612	
Grouping	Mice + Rats + Guinea-Pigs + Hamsters, etc.											183,940					183,940	
N.O.S.	Rodents	1,512	501	23,839		1,428			2,360		7,905		100	719	500	3,589	42,453	
Sub-Total	Total rodents	698,540	299,574	1,219,276	16,492	453,049		52,858	1,036,786	1,000	491,319	183,940	45,497	75,223	261,758	2,313,467	7,148,779	
	Rabbits	13,208	7,939	38,834	599	28,901		2,067	35,070	3	9,401	16,700	1,070	1,536	5,164	35,291	195,783	
Sub-Total	Total rodents + Lagomorphs	711,748	307,513	1,258,110	17,091	481,950		54,925	1,071,856	1,003	500,720	200,640	46,567	76,759	266,922	2,348,758	7,344,562	
	Cats	284	169	1,010		88		181	270		444	2	8	5	382	1,509	4,352	
	Beagles															6,567	6,567	
N.O.S.	Dogs	2,553	248	4,515		712		332	984		1,243	272	36	97	695	180	11,867	
Sub-Total	Total Dogs	2,553	248	4,515	2	712		332	984		1,243	272	36	97	695	6,747	18,436	
	Ferrets	16													97	2,244	2,357	
N.O.S.	Carnivores	46	1,293	362		12					76			146	92	2,480	4,507	
Sub-Total	Total carnivores	2,899	1,710	5,887	2	812		513	1,254		1,763	274	44	248	1,266	12,980	29,652	
	Horses	87	22														109	
N.O.S.	Horses, donkeys and cross breds			182		10		199	173		348		7	252	22	802	1,995	
Sub-Total	Total horses, donkeys and cross breds	87	22	182		10		199	173		348		7	252	22	802	2,104	
	Pigs	5,606	6,281	9,571	30	3,031		124	1,094		10,164		808	488	2,589	7,530	47,316	

Table 2 (continued)

	Quail (<i>Coturnix coturnix</i>)														317	317	
N.O.S.	Quail	1,359						5			150				3,321	4,835	
Sub-Total	Total Quail	1,359						5			150				3,638	5,152	
	Turkeys														3,417	3,417	
	Hens, chickens (<i>Gallus</i>)	52,708													96,010	148,718	
Grouping	Poultry							94								94	
N.O.S.	Birds	915	9,347	94,793	129	17,736		9,213		86,071		179	1,912	3,178	10,626	234,099	
Sub-Total	Total birds	54,982	9,347	94,793	129	17,736		94	9,218	86,071		329	1,912	3,178	113,691	391,480	
Grouping	Chickens + Sheep + Goats + Pigs + Bovine, etc.										1,471					1,471	
Grouping	Horses + birds										118					118	
	Reptiles	30		149		15		644		6				25		869	
	Amphibians	2,207	506	14,581	1,470	60		3,064		4,753	627	78	3,167	5,433	12,505	48,451	
	Rainbow trouts										352					352	
N.O.S.	Fish	733,928	24,098	120,222	460	1,015		19,021	5,485	40,028	1,179	40	26,441	6,031	134,419	1,112,367	
Sub-Total	Total fish	733,928	24,098	120,222	460	1,015		19,021	5,485	40,028	1,531	40	26,441	6,031	134,419	1,112,719	
N.O.S.	Other animals	400														400	
Total	Total all animals	1,515,867	350,226	1,509,619	19,280	506,837		77,107	1,094,185	1,003	652,300	204,825	49,520	110,659	286,012	2,659,368	9,036,808

Table 2 bis

Number and kind of animals used in procedures in 1997		
Country:		F
	Animals:	
	Mice	1,787,200
	Rats	432,739
	Guinea-Pigs	102,208
	Golden Hamsters (Mesocricetus auratus)	19,342
N.O.S.	Hamsters	
Sub-Total	Total Hamsters	19,342
	Gerbils	
N.O.S.	Rodents	6,142
Sub-Total	Total rodents	2,347,631
	Rabbits	63,727
Sub-Total	Total rodents + Lagomorphs	2,411,358
	Cats	1,990
N.O.S.	Dogs	4,290
Sub-Total	Total Dogs	4,290
	Ferrets	82
N.O.S.	Carnivores	183
Sub-Total	Total carnivores	6,545
N.O.S.	Horses, donkeys and cross breeds	2,174
	Pigs	9,927
	Goats	776
	Sheep	3,541
	Bovine cattle	1,636
Sub-Total	Total Artiodactyla	15,880
N.O.S.	Prosimians	82
Sub-Total	Total Prosimians	82
	Ceboidae	88
Sub-Total	Total New World Monkeys	88
	Cercopithecoidea	2,452
Sub-Total	Total Old World Monkeys	2,452
N.O.S.	Great Apes	0
Sub-Total	Total Prosimians + Monkeys + Apes	2,622
N.O.S.	Mammals	67
Sub-Total	Total mammals	2,438,646
	Quails (Coturnix coturnix)	1,907
N.O.S.	Birds	65,745
Sub-Total	Total birds	67,652
	Reptiles	48
	Amphibians	14,403
N.O.S.	Fishes	88,573
Sub-Total	Total fishes	88,573
Total	Total all animals	2,609,322

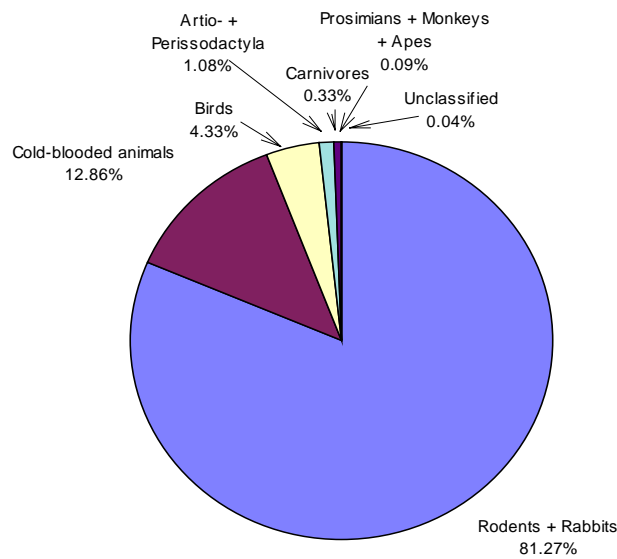
Treatment and interpretation of the data

The total number of animals reported for the year 1996 reaches 9,036,808 animals for the fourteen reporting Member States.

In order to present graphically the relative percentage of species, certain grouping was made (table 3 and figure 1).

Figure 1

Great groups of animals in percents



Artio- and Perissodactyla group horses, donkeys and cross-breds (Perissodactyla), pigs goats, sheep, deer and bovine cattle (Artiodactyla).

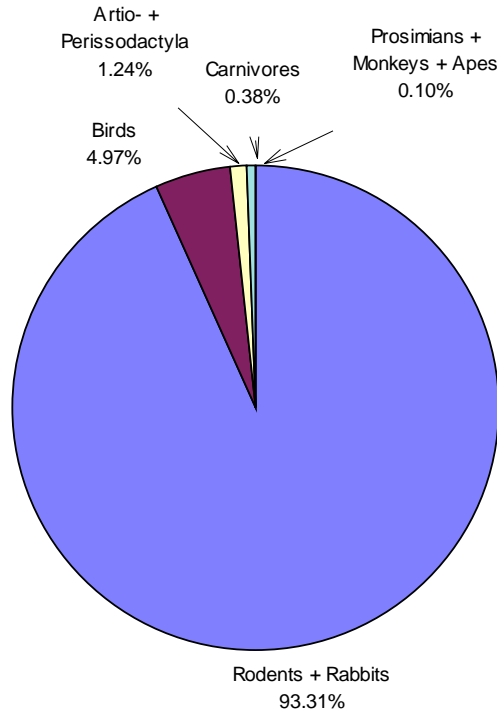
Rodents and rabbits represent the great majority (82%) of animals used in laboratory procedures. Cold-blooded animals (fish, amphibians, etc.) represent 13%.

Carnivores like cats and dogs represent 0.33% and the total of prosimians, monkeys and apes amounts for 0.09% of the animals used.

If one considers only the warm-blooded animals, rodents and rabbits amount 93% of the total (figure 2).

Figure 2

Warm-blooded animals, in percents



In table 4, a tentative was made to represent the forwarded data under the form of a EU table. Some groups of animals reported by some Member States cannot enter such classification, but the total of animals in the table represents 8,838,465 cases out of 9,036,808 (97.8%).

Table 4

Species or group of species	Number															
	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	Totals
Mice (<i>Mus musculus</i>)	430,172	194,257	729,612	9,689	231,949		26,735	379,327	1,000	244,799		34,851	36,244	131,496	1,501,735	3,951,866
Rats (<i>Rattus norvegicus</i>)	211,785	92,685	415,766	5,523	192,848		24,474	595,407		226,659		6,939	36,316	118,404	687,323	2,614,129
Guinea-Pigs (<i>Cavia porcellus</i>)	40,656	11,907	50,059	1,280	26,824		1,531	57,850		11,956		3,090	1,904	10,807	103,273	321,137
Hamsters (All species of hamsters)	3,570	224						1,842				517	40	551	9,898	16,642
Other Rodents (other Rodentia)	12,357	501	23,839		1,428		118	2,360		7,905		100	719	500	11,238	61,065
Rabbits (<i>Oryctolagus cuniculus</i>)	13,208	7,939	38,834	599	28,901		2,067	35,070	3	9,401	16,700	1,070	1,536	5,164	35,291	195,783
Cats (<i>Felis catus</i>)	284	169	1,010		88		181	270		444	2	8	5	382	1,509	4,352
Dogs (<i>Canis familiaris</i>)	2,553	248	4,515	2	712		332	984		1,243	272	36	97	695	6,747	18,436
Ferrets (<i>Mustela putorius furo</i>)	16													97	2,244	2,357
Other Carnivores (other Carnivoria)	46	1,293	362		12					76			146	92	2,480	4,507
Horses, donkeys and cross breeds (Equidae)	87	22	182		10		199	173		348		7	252	22	802	2,104
Pigs (<i>Sus</i>)	5,606	6,281	9,571	30	3,031		124	1,094		10,164		808	488	2,589	7,530	47,316
Goats (<i>Capra</i>)	122	79					25	70				55		24	625	1,000
Sheep (<i>Ovis</i>)	1,811	90					1,010	342				1,225		148	17,524	22,150
Cattle (<i>Bos</i>)	1,428	556	2,035		53		1,196	189		3,026		362	839	287	5,682	15,653
Prosimians (Prosimia)			155													155
New World Monkeys (Ceboidea)								38					8	22	1,348	1,416
Old World Monkeys (Cercopithecoidea)		18		2				734					9	24	2,438	3,225
Apes (Hominoidea)	31										48					79
Other Mammals (other Mammalia)		6	332		70			24		12		5	18	41	1,066	1,574
Quail (<i>Coturnix coturnix</i>)															317	317
Other birds (other Aves)	54,982	9,347	94,793	129	17,736		94	9,218		86,071		329	1,912	3,178	113,374	391,163
Reptiles (Reptilia)	30		149		15			644		6				25		869
Amphibians (Amphibia)	2,207	506	14,581	1,470	60			3,064		4,753	627	78	3,167	5,433	12,505	48,451
Fish (Pisces)	733,928	24,098	120,222	460	1,015		19,021	5,485		40,028	1,531	40	26,441	6,031	134,419	1,112,719
TOTAL	1,514,879	350,226	1,506,017	19,184	504,752		77,107	1,094,185	1,003	646,891	19,180	49,520	110,141	286,012	2,659,368	8,838,465
Not above (grouping)																
Mice + Rats + Guinea-Pigs + Hamsters, etc.											183,940					183,940
Goats + Sheep			2,238	96	2,032					4,327			518			9,211
Other ungulates than bovine	19															19
Old + New World Monkeys			1,364								116					1,480
Cercopithecidae + Pongidae	569				53											622
Chickens + Sheep + Goats + Pigs + Bovine, etc.											1,471					1,471
Apes + prosimians + other simians										1,082						1,082
Horses + birds											118					118
Other animals	400															400
TOTAL	988		3,602	96	2,085					5,409	185,645		518			198,343
GENERAL TOTAL	1,515,867	350,226	1,509,619	19,280	506,837		77,107	1,094,185	1,003	652,300	204,825	49,520	110,659	286,012	2,659,368	9,036,808

Table 4 bis

With data from France for year 1997																
Species or group of species	1996	1996	1996	1996	1996	1997	1996	1996	1996	1996	1996	1996	1996	1996	1996	Totals
	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	
Mice (Mus musculus)	430,172	194,257	729,612	9,689	231,949	1,787,200	26,735	379,327	1,000	244,799		34,851	36,244	131,496	1,501,735	5,739,066
Rats (Rattus norvegicus)	211,785	92,685	415,766	5,523	192,848	432,739	24,474	595,407		226,659		6,939	36,316	118,404	687,323	3,046,868
Guinea-Pigs (Cavia porcellus)	40,656	11,907	50,059	1,280	26,824	102,208	1,531	57,850		11,956		3,090	1,904	10,807	103,273	423,345
Hamsters (All species of hamsters)	3,570	224				19,342		1,842				517	40	551	9,898	35,984
Other Rodents (other Rodentia)	12,357	501	23,839		1,428	6,142	118	2,360		7,905		100	719	500	11,238	67,207
Rabbits (Oryctolagus cuniculus)	13,208	7,939	38,834	599	28,901	63,727	2,067	35,070	3	9,401	16,700	1,070	1,536	5,164	35,291	259,510
Cats (Felis catus)	284	169	1,010		88	1,990	181	270		444	2	8	5	382	1,509	6,342
Dogs (Canis familiaris)	2,553	248	4,515	2	712	4,290	332	984		1,243	272	36	97	695	6,747	22,726
Ferrets (Mustela putorius furo)	16					82								97	2,244	2,439
Other Carnivores (other Carnivoria)	46	1,293	362		12	183				76			146	92	2,480	4,690
Horses, donkeys and cross breeds (Equidae)	87	22	182		10	2,174	199	173		348		7	252	22	802	4,278
Pigs (Sus)	5,606	6,281	9,571	30	3,031	9,927	124	1,094		10,164		808	488	2,589	7,530	57,243
Goats (Capra)	122	79				776	25	70				55		24	625	1,776
Sheep (Ovis)	1,811	90				3,541	1,010	342				1,225		148	17,524	25,691
Cattle (Bos)	1,428	556	2,035		53	1,636	1,196	189		3,026		362	839	287	5,682	17,289
Prosimians (Prosimia)			155			82										237
New World Monkeys (Ceboidea)						88		38					8	22	1,348	1,504
Old World Monkeys (Cercopithecoidea)		18		2		2,452		734					9	24	2,438	5,677
Apes (Hominoidea)	31										48					79
Other Mammals (other Mammalia)		6	332		70	67		24		12		5	18	41	1,066	1,641
Quail (Coturnix coturnix)						1,907									317	2,224
Other birds (other Aves)	54,982	9,347	94,793	129	17,736	65,745	94	9,218		86,071		329	1,912	3,178	113,374	456,908
Reptiles (Reptilia)	30		149		15	48		644		6				25		917
Amphibians (Amphibia)	2,207	506	14,581	1,470	60	14,403		3,064		4,753	627	78	3,167	5,433	12,505	62,854
Fish (Pisces)	733,928	24,098	120,222	460	1,015	88,573	19,021	5,485		40,028	1,531	40	26,441	6,031	134,419	1,201,292
TOTAL	1,514,879	350,226	1,506,017	19,184	504,752	2,609,322	77,107	1,094,185	1,003	646,891	19,180	49,520	110,141	286,012	2,659,368	11,447,787
Not above (grouping)																
Mice + Rats + Guinea-Pigs + Hamsters, etc.											183,940					183,940
Goats + Sheep			2,238	96	2,032					4,327			518			9,211
Other ungulates than bovine	19															19
Old + New World Monkeys			1,364								116					1,480
Cercopithecidae + Pongidae	569				53											622
Chickens + Sheep + Goats + Pigs + Bovine, etc.											1,471					1,471
Apes + prosimians + other simians										1,082						1,082
Horses + birds											118					118
Other animals	400															400
TOTAL	988		3,602	96	2,085					5,409	185,645		518			198,343
GENERAL TOTAL	1,515,867	350,226	1,509,619	19,280	506,837	2,609,322	77,107	1,094,185	1,003	652,300	204,825	49,520	110,659	286,012	2,659,368	11,646,130

C. Purposes of the procedures

The data

Thirteen Member States reported the purposes of the procedures versus the species used.

For some Member States, the total of animals when reporting the purpose of the test is not the same as when reporting only the kind of animals. The total of animals when reporting the purposes of the tests is 8,819,712 animals.

The terminology used when reporting the purposes varies from Member State to Member State, and it should be noted that the term ‘other’ has different meanings accordingly.

Table 5 lists the terms which were used as well as the Member States using them. For some Member States (Belgium, Denmark, Greece, Austria and Spain), the terms used are translated from the original languages.

Treatment and interpretation of the data

Although knowing that there is a risk of misinterpretation, these different descriptions presented by the Member States were grouped according to table 6.

A tentative was made to represent the forwarded data under the form of a standard table (table 7). Some groups of animals cannot enter this classification : 31% of the reported cases do not fit in this table.

Classification based on other groups was searched, in order to include all the data reported; these groups are presented in table 8. From this last table, some graphical presentations were drawn (figures 3 and 4).

Table 5

	Countries	Terminology used when reporting the purposes
EU Table	B, DK, IRL, P, S, UK	Biological studies of a fundamental nature
EU Table	DK, S	Research and development of products and apparatus for human medicine and dentistry
EU Table	DK, S	Production and quality control of products and apparatus for human medicine and dentistry
EU Table	DK, S	Research and development of products and apparatus for veterinary medicine
EU Table	DK, S	Production and quality control of products and apparatus for veterinary medicine
EU Table	DK, P, S	Toxicological and other safety evaluation [including safety evaluation of products and appliances for human medicine and dentistry and veterinary medicine]
EU Table	B, DK, D, EL, E, IRL, NL, P, FIN	Diagnosis of disease
EU Table	B, DK, EL, E, IRL, NL, P, FIN	Education and training
EU Table	B, DK, EL, IRL, P, FIN	Other
	A	Medical or training purpose
	A	Protection of man or the environment
	A	Regulatory ordinance purpose
	B, I	Research and development and quality control of products and apparatus for human and veterinary medicine and dentistry
	B, IRL	Toxicological and other safety evaluation
	B	Development of mutants and trans-genic organisms
	B	Use of animals to keep and produce biological material
	NL, D, EL, E, FIN	Biological (including medical) studies of a fundamental nature
	EL, FIN	Research into, development and quality control (not including safety evaluations) of products and appliances for human and veterinary medicine
	EL, FIN	Protection of man and the environment by toxicological or safety evaluation (including safety evaluation of products or appliances for human and veterinary medicine)
	IRL, P	Research, development and quality control of apparatus and products used in human medicine and dentistry
	IRL, P	Research, development and quality control of apparatus and products used in veterinary medicine
	IRL	Study of diseases
	IRL	Immunological studies
	D, E, NL	Discovery development and quality control (including safety evaluation) of products or appliances for human and veterinary medicine
	D, E, NL	Protection of man, animals and their environment by toxicological or other safety evaluation
	S	Research and development of products and devices for human medicine and dentistry and for veterinary medicine (excluding toxicological and other safety evaluations)
	UK	Applied studies - human medicine or dentistry
	UK	Applied studies - veterinary medicine
	UK	Protection of man, animals or environment
	UK	Education
	UK	Training
	UK	Forensic enquiries
	UK	Direct diagnostic
	UK	Breeding

Table 6

	Biological studies of a fundamental nature	Research and development and quality control of products and apparatus for human and veterinary medicine and dentistry	Toxicological and other safety evaluation [including safety evaluation of products and appliances for human medicine and dentistry and veterinary medicine]	Diagnosis of disease	Education and training	Other
Other terms used:						
Research and development of products and apparatus for human medicine and dentistry		X				
Production and quality control of products and apparatus for human medicine and dentistry		X				
Research and development of products and apparatus for veterinary medicine		X				
Production and quality control of products and apparatus for veterinary medicine		X				
Medical or training purpose					X	
Protection of man or the environment			X			
Regulatory ordinance purpose			X			
Research and development and quality control of products and apparatus for human and veterinary medicine and dentistry		X				
Toxicological and other safety evaluation			X			
Development of mutants and transgenic organisms						X
Use of animals to keep and produce biological material						X
Biological (including medical) studies of a fundamental nature	X					
Research into, development and quality control (not including safety evaluations) of products and appliances for human and veterinary medicine		X				
Protection of man and the environment by toxicological or safety evaluation (including safety evaluation of products or appliances for human and veterinary medicine)			X			
Research, development and quality control of apparatus and products used in human medicine and dentistry		X				
Research, development and quality control of apparatus and products used in veterinary medicine		X				
Study of diseases				X		
Immunological studies						X
Discovery development and quality control (including safety evaluation) of products or appliances for human and veterinary medicine		X				
Protection of man, animals and their environment by toxicological or other safety evaluation			X			
Research and development of products and devices for human medicine and dentistry and for veterinary medicine (excluding toxicological and other safety evaluations)		X				
Applied studies - human medicine or dentistry		X				
Applied studies - veterinary medicine		X				
Protection of man, animals or environment			X			
Education					X	
Training					X	
Forensic enquiries						X
Direct diagnostic				X		
Breeding						X

Table 7

Kind of animals and purpose: grouping the purposes descriptions							
Species or group of species	Biological studies of a fundamental nature	Research and development and quality control of products and apparatus for human and veterinary medicine and dentistry	Toxicological and other safety evaluation [including safety evaluation of products and appliances for human medicine and dentistry and veterinary medicine]	Diagnosis of disease	Education and training	Other	Total
Mice (<i>Mus musculus</i>)	771,822	1,288,811	85,304	75,329	7,584	469,723	2,698,573
Rats (<i>Rattus norvegicus</i>)	391,291	935,946	148,010	9,177	11,579	241,014	1,737,017
Guinea-Pigs (<i>Cavia porcellus</i>)	16,451	132,037	35,078	2,717	449	13,457	200,189
Hamsters (All species of hamsters)	8,481	6,428	850	55	215	573	16,602
Other Rodents (other Rodentia)	7,281	18,295	1,376	62	47	113	27,174
Rabbits (<i>Oryctolagus cuniculus</i>)	18,782	35,539	33,701	6,233	1,809	26,445	122,509
Cats (<i>Felis catus</i>)	1,619	925	75	7	36	143	2,805
Dogs (<i>Canis familiaris</i>)	741	7,776	2,928	26	328	68	11,867
Ferrets (<i>Mustela putorius furo</i>)	904	1,399		34	20		2,357
Other Carnivores (other Carnivoria)	3,648	197		66			3,911
Horses, donkeys and cross breeds (<i>Equidae</i>)	197	534	51	396	65	69	1,312
Pigs (<i>Sus</i>)	9,276	5,827	608	886	1,483	5,952	24,032
Goats (<i>Capra</i>)	561	80	20	141	119	79	1,000
Sheep (<i>Ovis</i>)	9,620	7,105	11	2,929	712	1,828	22,205
Cattle (<i>Bos</i>)	3,309	4,207	49	1,075	97	908	9,645
Prosimians (<i>Prosimia</i>)							
New World Monkeys (<i>Ceboidea</i>)	389	982	12			25	1,408
Old World Monkeys (<i>Cercopithecoidea</i>)	300	2,451	389	44		34	3,218
Apes (<i>Hominioidea</i>)	31	245	211			183	670
Other Mammals (other <i>Mammalia</i>)	977	114	51				1,142
Quail (<i>Coturnix coturnix</i>)	64	229	24				317
Other birds (other <i>Aves</i>)	64,528	68,027	6,202	5,406	936	45,423	190,522
Reptiles (<i>Reptilia</i>)	674					25	699
Amphibians (<i>Amphibia</i>)	14,487	93	5,660	50	4,018	94	24,402
Fish (<i>Pisces</i>)	175,444	23,365	54,090	8,207	1,681	661,766	924,553
TOTAL	1,500,877	2,540,612	374,700	112,840	31,178	1,467,922	6,028,129
Not above (grouping)							
Mice + Rats + Guinea-Pigs + Hamsters, etc.			149,680		34,260		183,940
Reported as total rodents + lagomorphs	606,375	1,227,069	82,528	223,572	19,147	451	2,159,142
Other carnivores, incl. group Cats + dogs	1,469	4,685	400	681	309		7,544
Other ungulates						19	19
Cercopithecidae + Pongidae	53				41		94
Chickens + Sheep + Goats + Pigs + Bovine, etc.			321		1,150		1,471
Apes + prosimians + other simians	414	2,059	19	210			2,702
Horses + birds					118		118
Other animals	97,584	129,022	151,795	51,064	5,751	1,337	436,553
Total 'not above'	705,895	1,362,835	384,743	275,527	60,776	1,807	2,791,583
Great total	2,206,772	3,903,447	759,443	388,367	91,954	1,469,729	8,819,712
Great total of animals:	8,819,712						
Total in the frame:	6,028,129						
Not in the frame:	2,791,583						

Table 8

Kind of animals and purpose: grouping the animals, grouping the purposes							
Species or group of species	Biological studies of a fundamental nature	Research and development and quality control of products and apparatus for human and veterinary medicine and dentistry	Toxicological and other safety evaluation [including safety evaluation of products and appliances for human medicine and dentistry and veterinary medicine]	Diagnosis of disease	Education and training	Other	Total
Rodents + Rabbits	1,820,483	3,644,125	536,527	317,145	75,090	751,776	7,145,146
Carnivores	8,381	14,982	3,403	814	693	211	28,484
Artio- + Perissodactyla	22,963	17,753	739	5,427	2,476	8,855	58,213
Prosimians + Monkeys + Apes	1,187	5,737	631	254	41	242	8,092
Birds	64,592	68,256	6,226	5,406	936	45,423	190,839
Fish	175,444	23,365	54,090	8,207	1,681	661,766	924,553
Other cold-blooded than fish	15,161	93	5,660	50	4,018	119	25,101
Unclassified	98,561	129,136	152,167	51,064	7,019	1,337	439,284
Total	2,206,772	3,903,447	759,443	388,367	91,954	1,469,729	8,819,712

Figure 3

Purposes

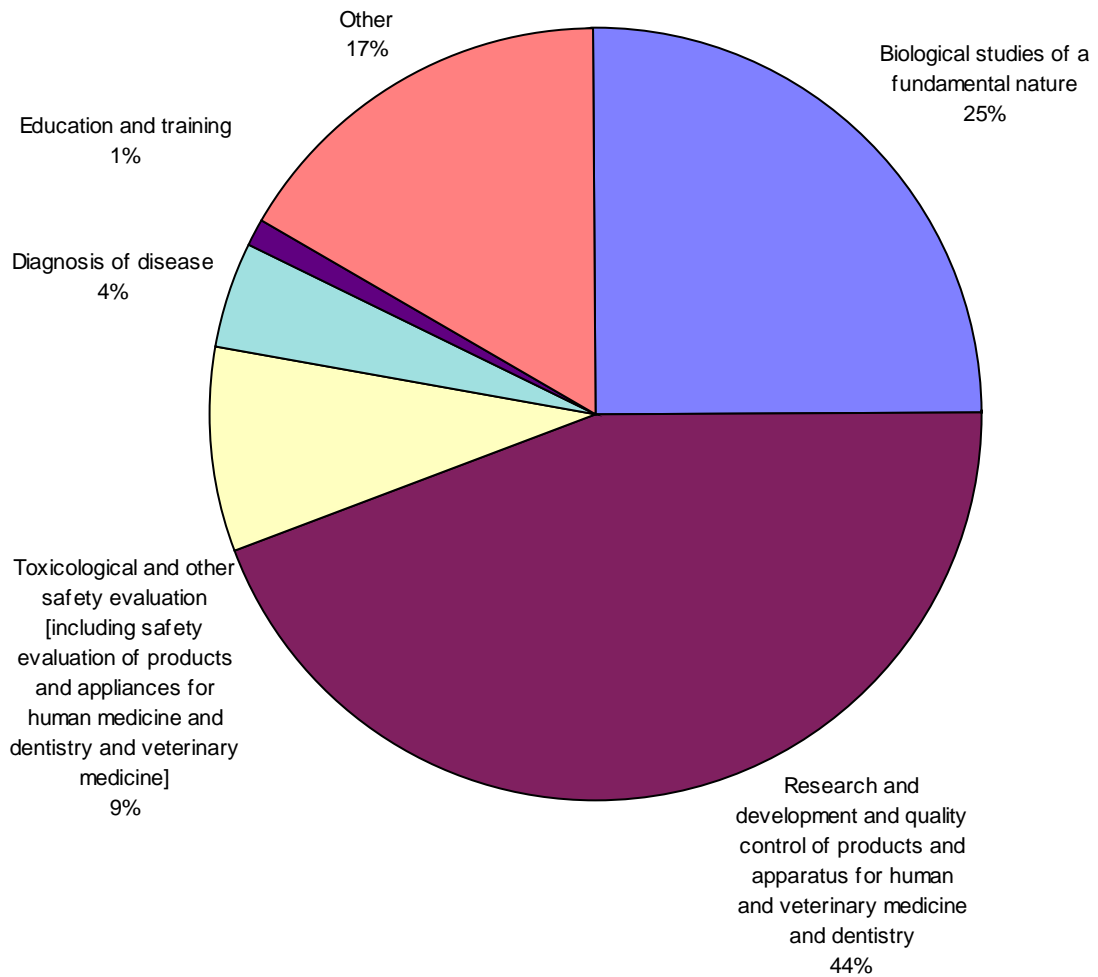
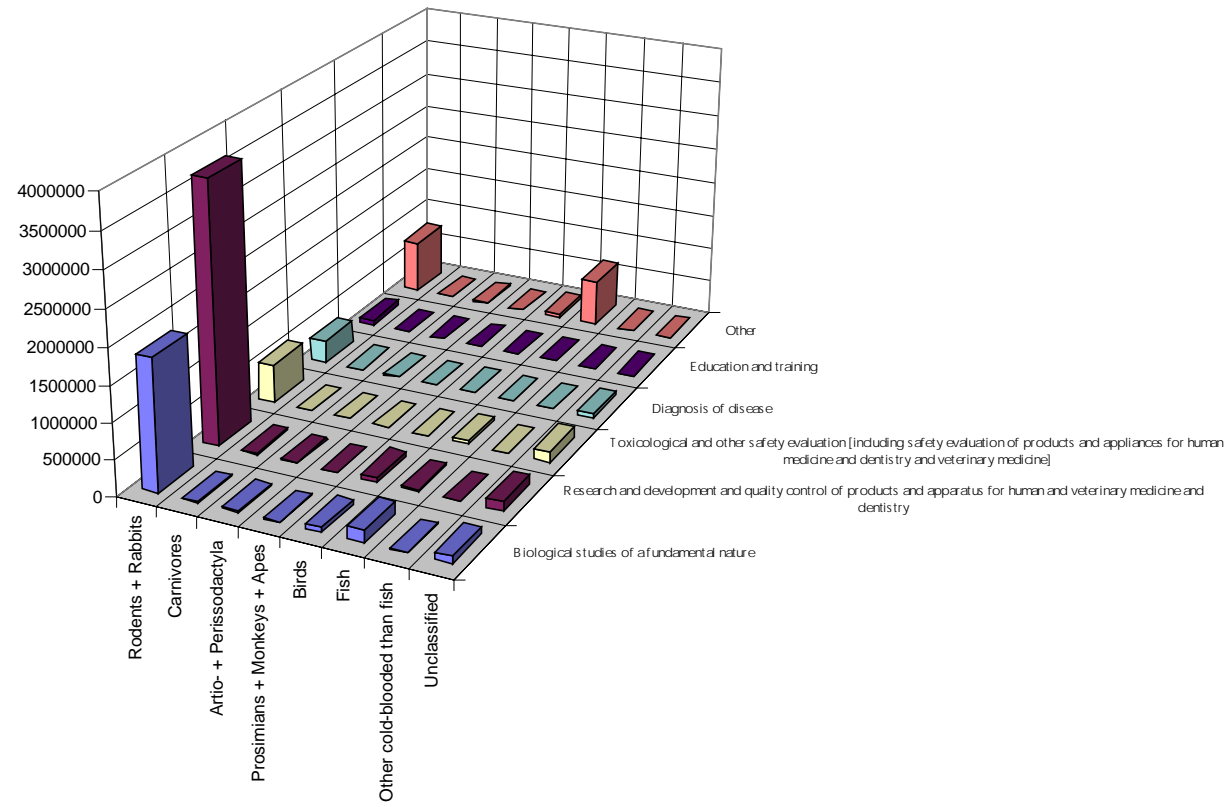


Figure 4

Species and purposes



Research and development, quality control of products and apparatus for human and veterinary medicine and dentistry represent 44% of the purposes for testing, followed by the fundamental research 25%.

No conclusive trends may be drawn for the distribution of the species versus the purpose of the procedure (figure 4), except that rodents and rabbits are always the most used animals for all purposes.

D. Toxicological and safety evaluations : kind of products

The data

The data, as indicated in table 1, concern only 11 Member States. The cases reported here are a sub-set of the total of the animal experimentations. The total number of animals reported by the ten Member States is 1,043,327.

Here also, the type of products or groups reported differs from Member State to Member State (table 9).

Table 9

	Toxicological evaluations: kind of products
B, EL, FIN, S	Human and veterinary medicine
B, DK, D, EL, E, NL, P, FIN, S, UK	Agriculture
B, DK, E, NL, P, FIN, S, UK	Industrial products
B, DK, E, NL, P, FIN, S, UK	Household products
B, DK, E, NL, P, FIN, S, UK	Cosmetics
B, DK, E, NL, P, FIN, S	Food additives - human
B, DK, P, S	Food additive - animal
B, DK, P, UK	Tobacco products
B, DK, D, EL, E, NL, P, FIN, S, UK	Other substances which could be harmful for the environment
B, DK, IRL, P, S, UK	Other
D	Sum households + cosmetics + food additives (human) + industrial products
DK, P	Human medicine and dentistry
DK, P	Veterinary medicine
IRL	Food
UK	Food additives + other foodstuff
UK	Pharmaceutical safety / efficacy evaluation + medical devices safety

Treatment and interpretation of the data

Some Member States include items relating to medicine and pharmacy in the details, other do not. The description of the species is often limited to 3 main groups.

The totals of the figures are shown in table 10; no conclusions can be drawn, mainly because the item “medicine” is reported by seven Member States only.

Table 10

Number and kind of animals used versus type of products								
	B, DK, EL, P, FIN, S, UK	B, DK, D, EL, E, NL, P, FIN, S, UK	B, DK, E, NL, P, FIN, S, UK	B, DK, E, NL, P, FIN, S, UK	B, DK, E, NL, P, FIN, S, UK	B, DK, E, IRL, NL, P, FIN, S, UK	B, DK, D, EL, E, IRL, NL, P, FIN, S, UK	
	All medicine and pharmacy	Agriculture	Industrial	Household	Cosmetics	All food	Other substances which could be harmful for the environment	All others or other grouping
Animals:								
Rodents and lagomorphs	478,797	84,514	85,103	2,062	4,823	8,745	14,199	101,106
Carnivores (cats, dogs)	6,457	843	11	84		12		171
Prosimian, Monkeys, Apes	2,940					7	12	54
All others	35,739	39,121	11,113	424		4,408	126,961	35,621
Total	523,933	124,478	96,227	2,570	4,823	13,172	141,172	136,952
Total on this table:	1,043,327							

Important remark

The second row in table 10 indicates the Member States which have reported a number of animal used or no animal use for type of products.

E. Number of animals used in procedures for studies on human and animal diseases : types of diseases versus species

The data

As indicated in table 1, these data are reported by nine Member States only, reaching a total of 1,285,148 animals. The terminology and the groups used for reporting are not the same, as shown in table 11. The species are most often limited to three main groups.

Table 11

Type of diseases versus species	
B, DK, EL, E, IRL, NL, P, FIN, S	Human cardiovascular diseases
B, DK, EL, P, FIN	Human respiratory diseases
B, DK, EL, E, FIN, NL, P, IRL, S	Human nervous and mental disorders
B, DK, EL, E, IRL, NL, P, FIN, S	Human cancer (excluding evaluation of carcinogenic hazards)
B, DK, EL, P, FIN, S	Other human diseases
B, DK, EL, P, FIN, S	Animal diseases
EL, IRL, NL	Other
E	All other (human and animals)

Treatment and interpretation of data

In table 12, data were grouped according to what is common to the nine Member States reporting on this parameter, thus grouping in the same category “other” the human respiratory diseases, the other human diseases and the animal diseases.

Table 12

Study of diseases:					
Species or group of species	Human cardiovascular diseases	Human nervous and mental disorders	Human cancer (excluding evaluation of carcinogenic hazards)	All 'other' categories	Total
Total Rodents + Lagomorphs	82,219	307,760	210,220	349,056	949,255
Total dogs and cats	679	186	6	1,646	2,517
Prosimians + Monkeys + Apes		83	43	450	576
Other animals	8,038	7,113	3,240	314,409	332,800
Total	90,936	315,142	213,509	665,561	1,285,148

By doing this, the category “other” reaches 51% of the cases. The only trend which is shown in table 12 and in figure 5 is that the studies on human nervous and mental disorders could use more animals than those concerning human cancers or cardiovascular diseases.

Figure 5

Study of diseases

