



Home Office

# Statistics of Scientific Procedures on Living Animals Great Britain 2011

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HOME OFFICE

# Statistics of Scientific Procedures on Living Animals

GREAT BRITAIN  
2011

Presented to Parliament pursuant to section 21(7) of  
the Animals (Scientific Procedures) Act 1986

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**Note:** The 'Supplementary Tables' and 'Time Series Tables' and the 'User Guide to Home Office Statistics of Scientific Procedures on Living Animals' can be found on the website at :- <http://www.homeoffice.gov.uk/science-research/research-statistics/science/research-testing-using-animals/>.

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# Introductory Notes

The statistics in this publication relate to scientific procedures performed using living animals subject to the provisions of the Animals (Scientific Procedures) Act 1986, during the year 2011. The purpose of the publication is to meet the requirements of the Animals (Scientific Procedures) Act 1986 section 21(7) “The Secretary of State shall in each year publish and lay before Parliament such information as he considers appropriate with respect to the use of protected animals in the previous year for experimental or other scientific purposes”. The system of control under the 1986 Act is explained in detail in Appendix A.

## Confidentiality and Data quality

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Detailed information on the work of individual project licence holders is not readily identifiable in this publication. Where a further breakdown of the 'other' species categories are not given in the commentary this is to safeguard the confidentiality of the establishment and the licence holder. The data provided remains provisional and subject to revision.

### Symbols used in tables

..	not available
-	nil
N/A	not applicable
r	revised

## Acknowledgements

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This publication and the accompanying web tables have been prepared by staff in the Home Office Statistics unit of the Home Office Science Group. We are grateful for the support of colleagues in Policing Data Collection Section for data input, the Animals in Science Regulation Unit for their assistance with the collection, processing and quality assurance processes involved in preparing this report, and colleagues in the Communications Development Section who assisted in preparing the report for publication. Last but not least, the contribution of licensees who provided the returns on which this report is based is acknowledged.

## Further information available

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Further information is available from the Internet site: <http://homeoffice.gov.uk/science-research/research-statistics/science/research-testing-using-animals/> :-

- the 'User Guide to Home Office Statistics of Scientific Procedures on Living Animals' (a useful reference guide with explanatory notes regarding the issues and classifications which are key to the production and presentation of the statistics).
- the 'Supplementary Tables' and the 'Time Series Tables'.

The dates of forthcoming publications are pre-announced and can be found via the UK National Statistics Publication Hub: <http://www.statistics.gov.uk/hub/index.html>.

## **Home Office Responsible Statistician**

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David Blunt, Chief Statistician and Head of Profession for Statistics

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<p>This statistical bulletin is a National Statistics output produced to the highest professional standards and free from political interference. It has been produced by statisticians working in the Home Office Statistics Unit in accordance with the Home Office's Statement of Compliance with the Code of Practice for Official Statistics which covers our policy on revisions and other matters. The governance arrangements in the Home Office for statistics were strengthened on 1 April 2008 to place the statistical teams under the direct line management of a Chief Statistician, who reports to the National Statistician with respect to all professional statistical matters.</p>
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**Definition** – for the compilation of these statistics the number of procedures reported generally corresponds to the number of animals. Where an animal that has recovered fully from a completed procedure is used again for a further procedure it is counted as a separate procedure.

**Presentation** – the figures given refer to the numbers of procedures that were started in 2011 (rather than the numbers of animals), compared with 2010, unless indicated otherwise. Most figures have been rounded to the nearest 1,000 or 100 procedures or to two significant figures.

## Summary

1. Just over 3.79 million scientific procedures were started in Great Britain in 2011, increasing 2 per cent (+68,100). Breeding of genetically modified (GM) animals and harmful mutants (HM), mainly mice, remained stable, accounting for 1.62 million procedures.
2. Excluding the breeding of GM and HM animals, the total number of procedures increased in 2011 (an increase of +71,300 or +3%, from 2.10 million to 2.18 million).
3. There were increases in numbers of procedures for several species, for example cats (+26%), pigs (+37%), birds (+14%) and fish (+15%). There were falls for several species, for example rats (-11%), guinea pigs (-16%), dogs (-21%), and non-human primates (-47% with new-world monkeys -68% and old-world monkeys -41%).
4. There was an increase (+2%) in the numbers of procedures for safety testing (toxicology) to 399,000, due to increased use of fish in regulatory toxicology, with a higher proportion carried out to meet more than one legislative/regulatory requirement (75% compared with 72% in 2010). Most toxicology procedures are carried out in the commercial sector where the number of procedures also rose (+1%).
5. The number of non-toxicology procedures increased 2 per cent to 3.39 million, reflecting the higher numbers of procedures carried out in universities (+7%), particularly fundamental research. The increase for non-toxicology included increases in physiology (+115,100), immunology (+62,000) and parasitology (+22,000) whilst ecology (-30,300), anatomy (-27,000), biochemistry (-11,900) and cancer research (-10,200) fell.
6. There were 1.08 million more procedures than in 2000 (+40%) mostly accounted for by breeding to produce GM and HM animals (+918,000, of which mice +795,000). Excluding such breeding, the total number of procedures was slightly higher than in 2000 (+8% or +159,900).

(Source: Tables 1, 3, 6, 9, 10, 19).

**Definition** – for the compilation of these statistics the number of procedures reported generally corresponds to the number of animals. Where an animal that has recovered fully from a completed procedure is used again for a further procedure it is counted as a separate procedure. The circumstances in which this re-use of an animal is permitted are limited (for further details see the Introductory Notes and the Form Notes in the 'User Guide to Home Office Statistics of Scientific Procedures on Living Animals').

**Presentation** – the figures given refer to the numbers of procedures that were started in 2011 (rather than the numbers of animals), compared with 2010, unless indicated otherwise. Most figures have been rounded to the nearest 1,000 or 100 procedures or to two significant figures, in order to simplify the explanation/presentation; therefore the figures shown will not be identical to the figures in the tables. However, percentage changes given are calculated using the unrounded data available in the tables.

## Commentary

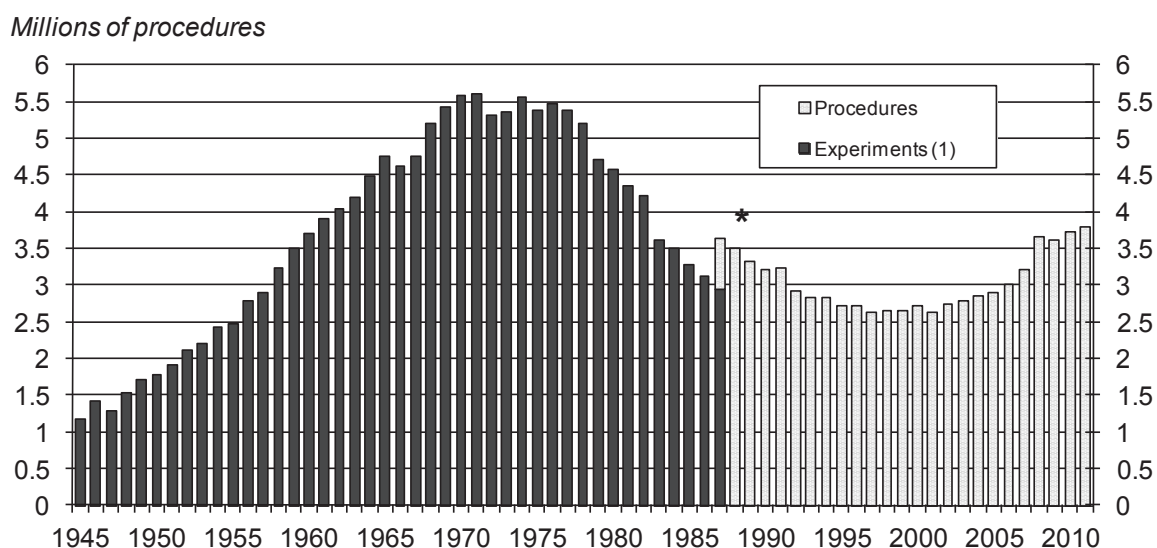
### Procedures started in 2011 (Tables 1, 1a)

There were just over 3.79 million scientific procedures started in 2011, an increase of 68,100 (+2%) on 2010. Breeding of genetically modified (GM) animals or harmful mutants (HM) accounted for 1.62 million procedures (43% of the total). The total excluding such breeding increased (an increase of +3% or +71,300, from 2.10 million to 2.18 million). There were some 3.71 million animals used for the first time in procedures started in 2011 (Table 1a), an increase of 68,100 (+2%), reflecting the trend in numbers of procedures started.

There has been a significant reduction in the annual number of scientific procedures since 1976, this trend levelled out in the second half of the 1990s and in recent years there has been an increase. The total number of procedures was higher (+40% or +1.08 million) than in 2000, mostly accounted for by breeding to produce GM and HM animals (+918,000 higher, of which mice +795,000). Excluding such breeding, the total was slightly higher than in 2000 (+8% or +159,900).

The overall level of scientific procedures is determined by a number of factors, including the economic climate and global trends in scientific endeavour.

**Figure 1: Experiments or procedures commenced each year 1945–2011**



(1) Experiments under the 1876 Act or Scientific Procedures under the 1986 Act

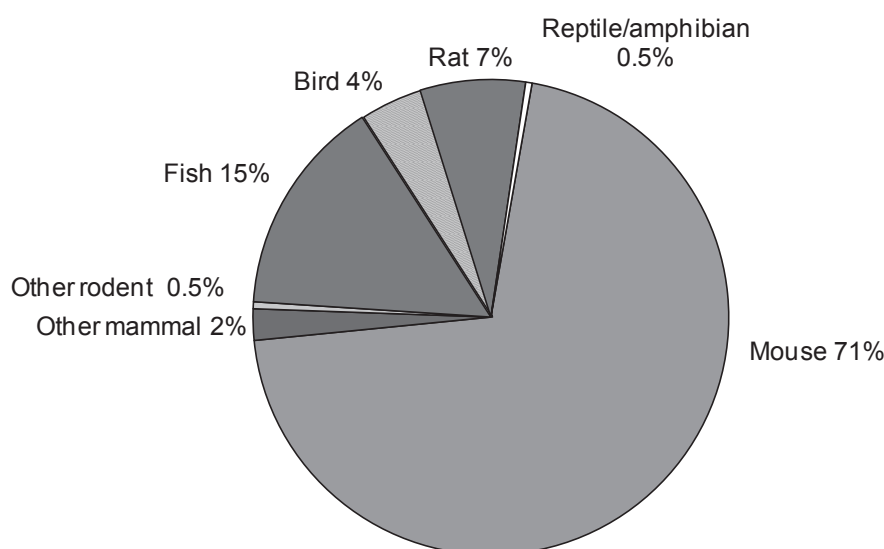
\* The 1987 total includes experiments under the 1876 Act as well as procedures under the 1986 Act.

## Species used (Tables 1 and 1a, and online Time Series Table 20)

### Overall numbers

- Mice (71%), fish (15%), rats (7%) and birds (4%) were involved in the largest numbers of procedures, similar to recent years.
- Domestic fowl accounted for 92 per cent of all procedures using birds.
- 'Other mammals' accounted for two per cent of all procedures, of which dogs, cats and non-human primates combined were used in fewer than a quarter of one percent of all procedures, with a combined total of 7,300, lower than in 2010 (10,700).

**Figure 2: Procedures by species of animal, 2011**



### Increases

There were higher numbers of procedures using some species in 2011, notably:

- Rabbits (+628 or +4%)
- Cats (+48 or +26%),
- Horses and other equids (+56 or +1%)
- Pigs (+1,165 or +37%)
- Goats (+169 or +626%)
- Other rodents (+2,352 or +152%)
- Cattle (+1,517 or +42%)
- Camelids (+224 or +679%)
- Birds (20,584 or +14%),
- Amphibians (+1,448 or +10%)
- Fish (+72,959 or +15%).

### Decreases

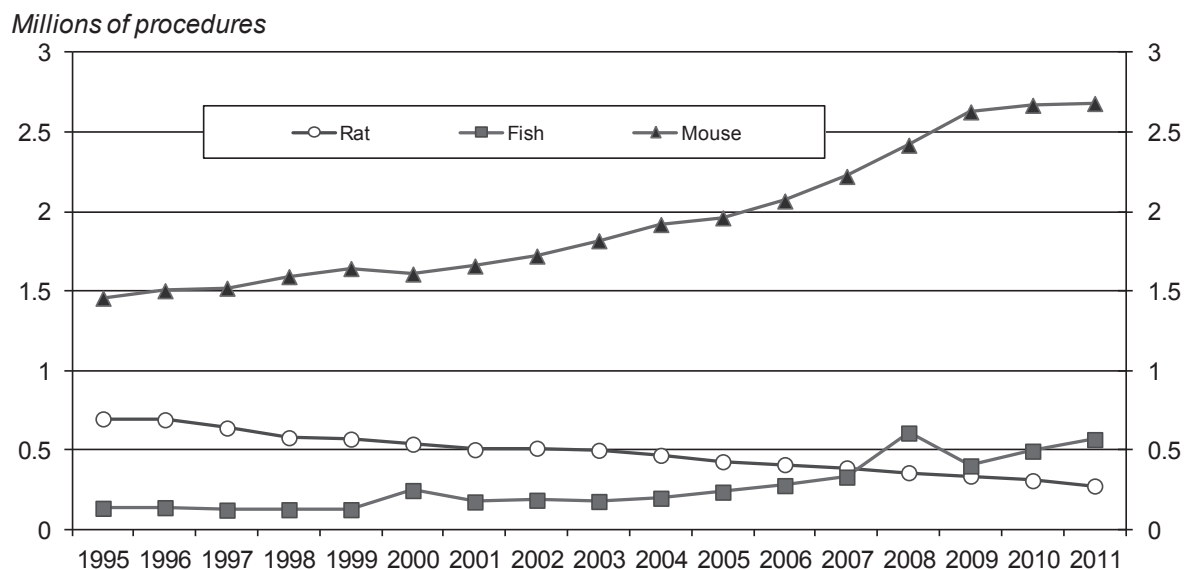
There were falls in numbers of procedures using other species in 2011, notably:

- Rats (-33,604 or -11%),
- Guinea pigs (-2,123 or -16%),
- Dogs (-1,230 or -21%),
- Deer (-12 or -19%)
- Non-human primates (-2,213 or -47%) with new-world monkeys (-752 or -68%) and old-world monkeys (-1,461 or -41%),
- Reptiles (-506 or -57%)

Figure 3 below shows that, since 1995, there has been a steady decrease in the number of procedures using rats, while the number of procedures using mice has steadily increased. The number of procedures

using fish increased in line with the increases in all years since 2001 apart from the 2009 decline that followed the peak in 2008. The proportion of total procedures accounted for by mice, rats and fish has steadily increased from around 84 per cent in 1995 to 93 per cent in 2011.

**Figure 3: Procedures using mice, rats and fish 1995–2011**



'Other' categories use detail

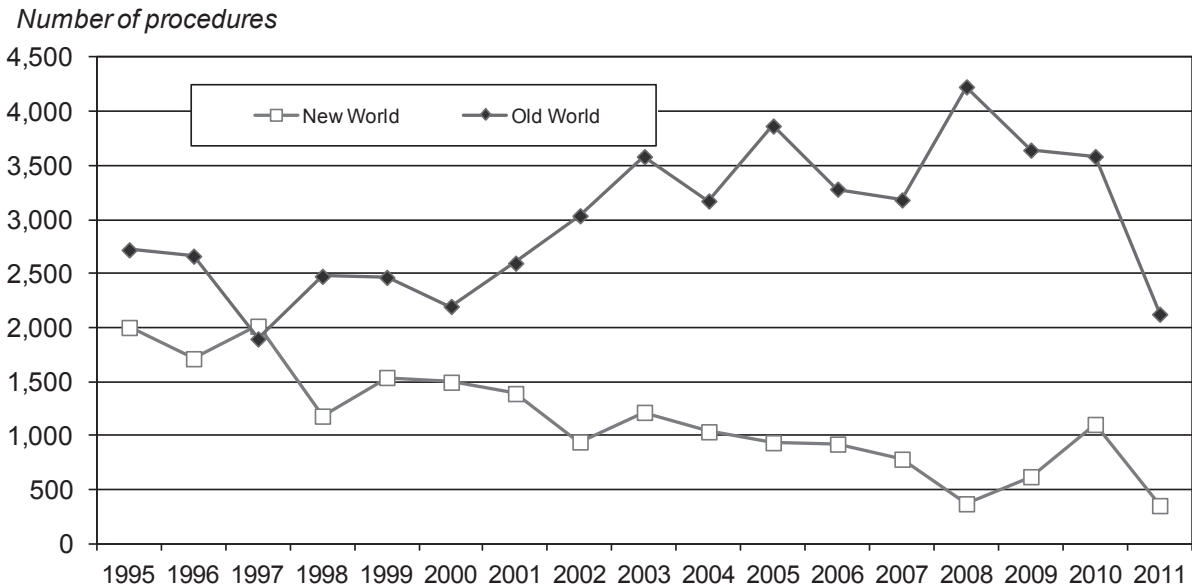
- The 'other carnivore' category included badgers, foxes and seals.
- The 'other mammals' category included bats, tree shrews and opossums.
- 'Other rodents' included voles, wood mice, squirrels, chinchillas and cotton rats.
- 'Other birds' included zebra finches, ducks and geese, pigeons, emu, guinea fowl and various wild garden or woodland birds, seabirds, waterfowl and game birds.
- 'Other ungulates' included wild boar.

Primate use (Tables 1 and 1a)

Figure 4 below shows the changes in procedures using old-world and new-world primates since 1995 (for details on primate species, see the 'User Guide to Home Office Statistics of Scientific Procedures on Living Animals').

- The number of procedures using new-world primates fell by 752 (-68%), and there was a fall of 430 animals used.
- The number of procedures using old-world primates fell by 1,461 (-41%), and there was a fall of 760 animals used.
- Some primates were used more than once since some of the procedures they were involved in have only a minimal effect.
- The total number of procedures using primates decreased by 2,213 from 4,688 in 2010 to 2,475 in 2011 (-47%) and the number of animals used fell by 1,190 (from 2,649 in 2010 to 1,459 in 2011 or 45%), with slightly over 1,000 procedures in 2011 involving re-use of primates.

**Figure 4: Procedures using non-human primates, 1995–2011**



Species on which no procedures were started in 2011 (Table 1)

No procedures were performed using greyhounds, a number of primate species, and *Octopus vulgaris*. No great apes have been used since the current legislation (the 1986 Act) was implemented in 1987.

**Primary purpose** (Tables 1 and 1a)

Note: Breeding is for the purpose of producing genetically modified (GM) animals or harmful mutants (HM). Further details of the coding of GM and HM animals are given in the 'User Guide to Home Office Statistics of Scientific Procedures on Living Animals' (section on Form Notes).

Increases

There was an increase in the numbers of procedures for:

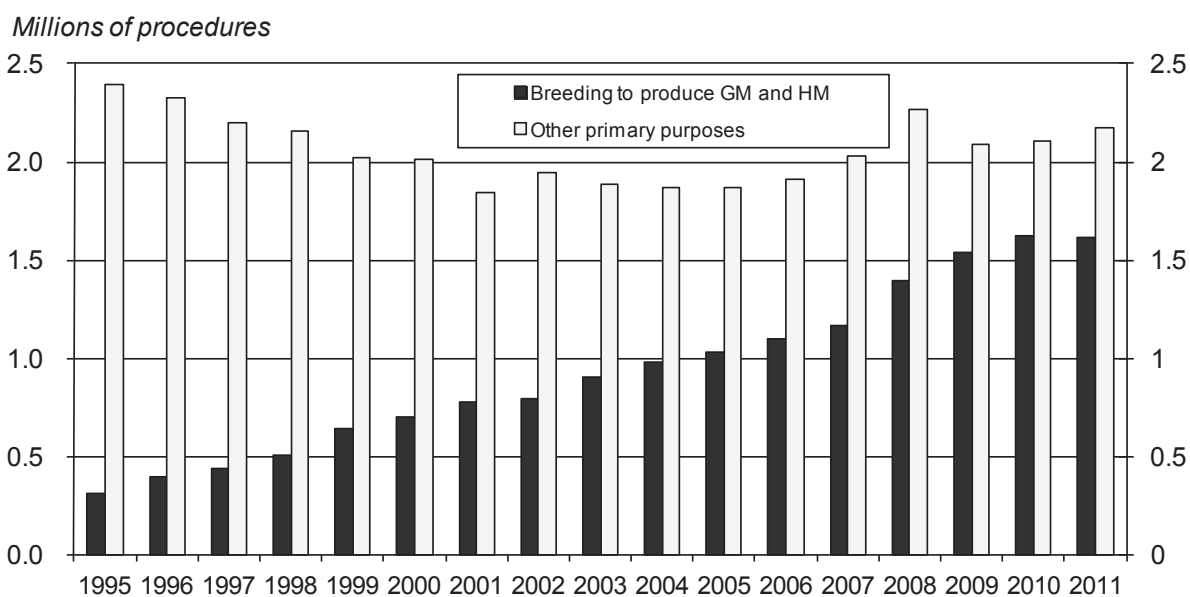
- direct diagnosis (+600 or 1%);
- fundamental biological research (+44,400 or +3%);
- veterinary medicine (+26,500, or +17%);
- protection of man, animals or environment (+41,000 or +54%).

Decreases

There were falls for:

- education (-700 or -31%); and
- human medicine/dentistry (-40,600 or -8%).

**Figure 5: Comparison of breeding to produce GM and HM animals, with other primary purposes, 1995–2011**



**Source** (Table 2 and online Supplementary Tables 2.1, 2.2)

The majority (79% or 2.99 million) of the 3.79 million procedures started in 2011 were carried out using animals listed in Schedule 2 of the Act. These animals must come from a designated source, unless a special exemption is granted. The animals in Schedule 2 are: mouse, rat, guinea pig, hamster, gerbil, rabbit, cat, dog, ferret, non-human primate, pigs (if genetically modified), sheep (if genetically modified), and quail *Coturnix coturnix*. The procedures involving animals listed in Schedule 2 and acquired from non-designated sources in the UK are authorised under Section 10(3) of the Act.

- Designated establishments in the UK were the source of animals for 2.96 million or 99 per cent of procedures using Schedule 2 listed species.
- Other EU countries were the source for Schedule 2 animals used in 13,700 procedures.
- Schedule 2 listed animals acquired from other sources (including Council of Europe countries who are signatories to ETS123) were used in 14,400 procedures; of these procedures 88 per cent (12,700) involved mice or rats (of which the large majority, 10,500, used GM or HM animals).

**Genetic status** (Table 3, and online Supplementary Tables 3 (full), 3.1, 3.2, 3.3)

Genetically 'normal' animals accounted for 1.76 million procedures (1.72 million procedures in 2010), slightly less than half (46%) of the total 3.79 million procedures. There were 376,000 procedures (10%) using HM animals and 1.65 million procedures (44%) using GM animals. There was an increase in procedures using GM animals (+51,500 or +3%) and normal animals (+41,000 or +2%) and a decrease in use of harmful mutants (-24,400 or -6%).

Genetically 'normal' animals (Table 3)

The increase in procedures using genetically 'normal' animals (+41,000 or +2%) was a result of increases for domestic fowl (+19,100) and fish (+71,000) with falls in use of mice (-14,900) and rats (-32,100).

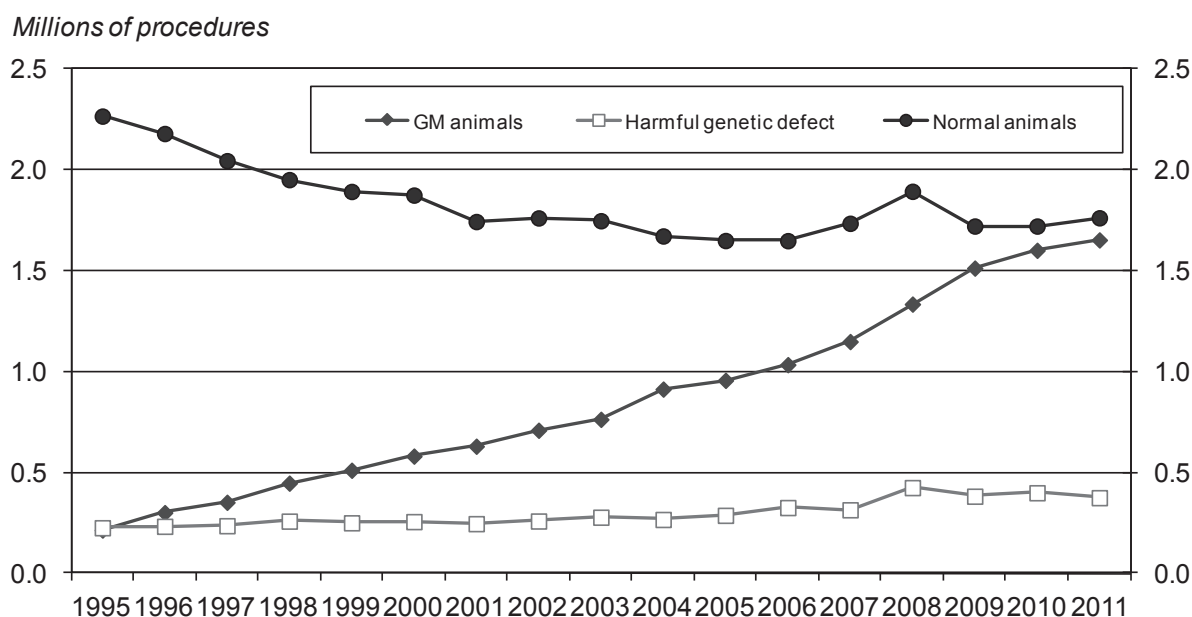
### Animals with a harmful genetic defect (Table 3, online Supplementary Table 3.2)

The decrease in procedures using HM animals (-24,400 or -6%) was a result of decreases in use of mice (-15,000), fish (-9,100) and rats (-2,200) whilst use rose for amphibia (+1,800). The procedures using mice, rats and fish were mainly for maintaining breeding colonies, with the other primary purposes being fundamental biological research and for mice and rats, applied studies.

### Genetically modified animals (Table 3)

The increase (+51,500 or +3%) in procedures using genetically modified animals (GM) was attributable to higher use of mice (+39,600 or +3%) and fish (+11,000 or +10%). The procedures using mice and fish were mainly for maintaining breeding colonies, with the other primary purpose being fundamental biological research.

**Figure 6: Procedures by genetic status of animal, 1995–2011**



### **Target body system** (Table 4)

Slightly over half (52%) of all procedures in 2011 were prospectively directed towards one particular body system:-

- The immune system was the largest single category, accounting for 512,600 procedures (14%) mainly mice (463,300).
- The nervous system was the next largest with 420,000 (11%) procedures; mice, rats and fish were the most common species used (99% of this type of procedure).
- Of the single body system categories, there was a mix of rises and falls with no clear pattern.

Procedures conducted where the target body system was 'not relevant' accounted for 840,500 (22% of the total 3.79 million procedures), down 124,900 (-13%). The category for 'multiple' target body systems accounted for 983,200 procedures (26% of the total) increasing by ten per cent.

### **Use of anaesthesia (Table 5)**

Procedures are only permitted without anaesthesia or analgesic when such administration is judged more traumatic than the procedure itself, or when it is incompatible with the object of the procedure.

- A third (29%) of all procedures had some form of anaesthesia to alleviate the severity of the interventions. For many of the remaining procedures the use of anaesthesia would have potentially increased the adverse effects of the procedure.
- The use of neuromuscular blocking agents (NMBA) was recorded in 2,547 procedures, all of which involved the use of general anaesthesia.

### **Fundamental and applied studies other than toxicology, regulatory or safety purposes**

(Table 6)

Non-toxicology accounted for 3.39 million procedures, 89 per cent of the total of 3.79 million procedures, and was slightly higher than in 2010 (+60,200 or +2%). The main areas were: physiology (18% of such procedures), immunology (16%), cancer research (13%), anatomy (11%), genetics (10%), and pharmaceutical R&D (7%).

There were increases for physiology (+115,100), immunology (+62,000) and parasitology (+22,000) whilst there were falls for the 'other' category (-49,400), ecology (-30,300), anatomy (-27,000), biochemistry (-11,900) and cancer research (-10,200).

### **Production of biological materials (Table 7)**

In 2011 some 349,700 procedures, 2,600 (-1%) fewer than in 2010, were carried out to produce biological materials.

- Forty-two per cent of these were for the production of infectious agents, (four percent of the total 3.39 million non-toxicology procedures), of which the most common species used were birds (79%) and mice (17%).
- Vectors, neoplasms and antibody production accounted for a further seven per cent of procedures for production of biological materials; using a wide range of species.
- The remaining fifty-one per cent of production procedures were to obtain other biological material such as tissues or blood products, also using a wide range of species.
- The numbers of procedures using immunisation to produce monoclonal antibodies by in vitro methods fell by 13 per cent to 1,900 procedures in 2011, less than half the level of 4,000 procedures in 2008.



## Toxicology, other safety or efficacy evaluation

(Tables 9, 9a, 10, 11, online Supplementary Tables 12, 15, 16)

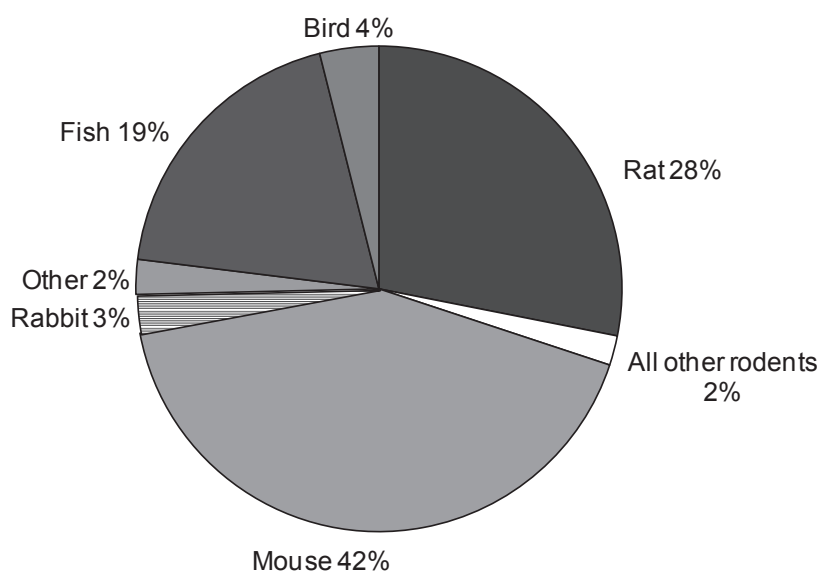
(Table 9 and online Time Series Table 25)

There were 399,000 procedures for toxicological or other safety/efficacy evaluation purposes, or just over one in ten (11%) of the total 3.79 million procedures. This represented a rise of two percent in toxicology procedures compared with 2010, which followed falls in toxicology in most recent years. The increase was due to a significant increase in the use of fish in toxicology; without this the trend would have continued downwards. Most (78%) toxicology procedures were for pharmaceutical safety and efficacy evaluation, and just under three-quarters (73%) involved rodent species; while non-human primates accounted for less than one per cent of such procedures.

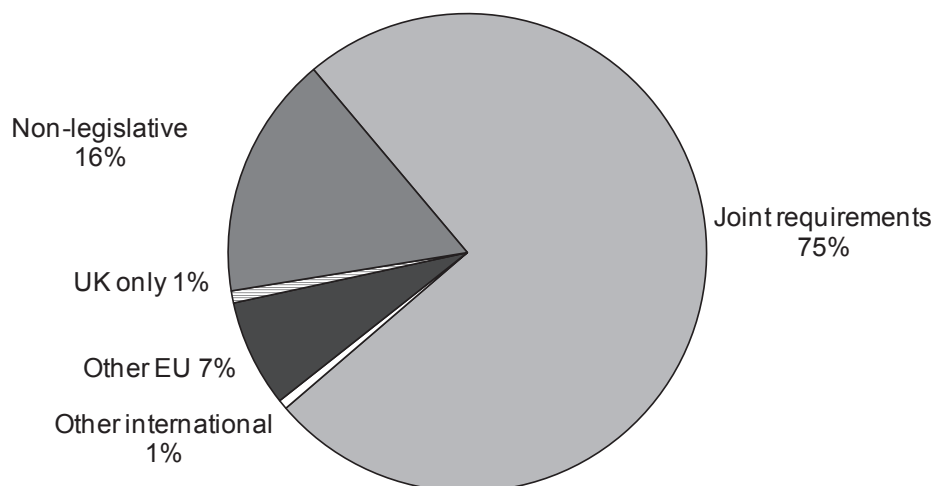
(Table 10, online Time Series Table 21)

Over four-fifths of toxicological procedures (84% of 399,000) were carried out to conform to legal or regulatory requirements, with most of these (75% or 299,000 of the 399,000 toxicology procedures) carried out to meet a combination of legislative requirements. By comparison in 1995 a similar proportion of toxicology procedures (83%) were carried out to meet legislative requirements but a smaller proportion (59%) were to meet joint requirements.

**Figure 7: Procedures (toxicology) by species of animal, 2011**



**Figure 8: Procedures by legislative requirement (toxicology), 2011**



### **Rodenticide trials**

It is impracticable to collect accurate figures on the number of animals used in field trials of rodenticide substances. There was one return from a licensee which confirmed that such field trials occurred in 2011 as part of the work carried out under that licence.

### **Use of animals on the CITES list**

Returns were required on the use of animals listed in Appendix 1 of the Convention on International Trade in Endangered Species of Flora and Fauna (CITES) or in Annex C.1 to the Council Regulation (EEC) 3626/82 (see Form Notes section in 'User Guide to Home Office Statistics of Scientific Procedures on Living Animals'). There were 68 procedures performed using animals in this category in 2011; these involved wild birds in research relevant to those species.

### **Type of establishment (Table 19)**

In 2011 commercial organisations accounted for 26 per cent of the 3.79 million procedures and ten per cent of 3,165 project licences for which returns were received; the corresponding figures for universities were 50 per cent and 75 per cent respectively.

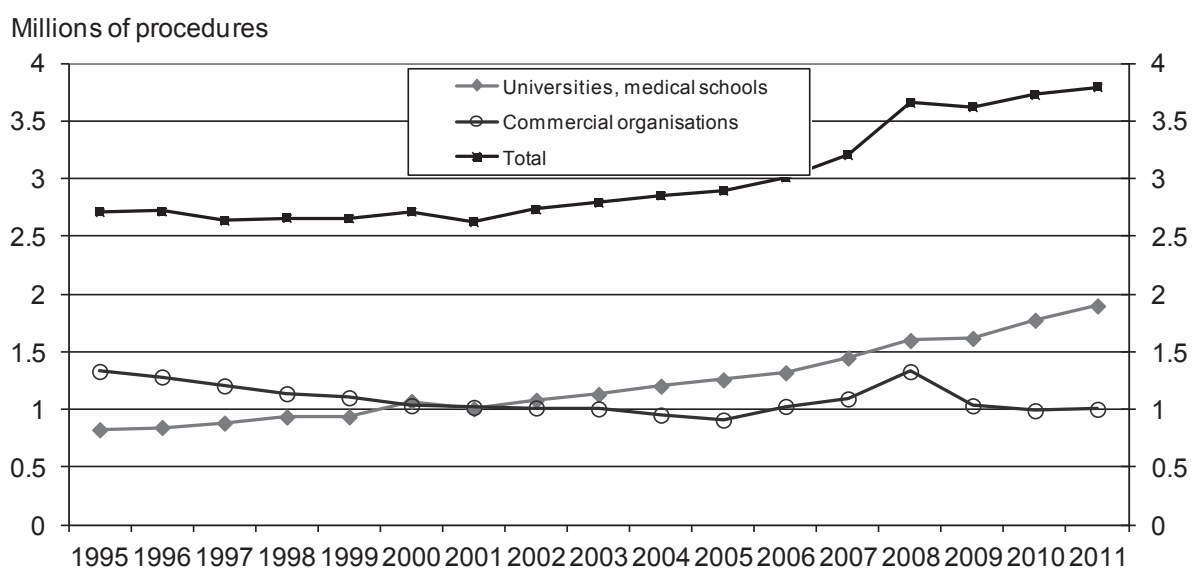
(Online Time Series Table 23)

The number of procedures accounted for by the commercial sector rose by one per cent to just over 1.00 million procedures in 2011. However, there have been falls in most previous years since the levels of around 2 million annually at the end of the 1980s.

The number of procedures carried out in the university sector has been increasing fairly steadily since the end of the 1980s, and increased again in 2011 (to 1.90 million, +7%).

The difference in trends between the commercial sector and the university sector is likely to reflect the increase in fundamental research using GM animals within universities, as well as the trend for lower numbers of procedures for toxicological purposes (with an increasing proportion of such procedures used to meet more than one requirement).

**Figure 9: Procedures by establishment type 1995–2011**



### International comparisons (Table 1a and Commission report<sup>1</sup> Tables 1.0 and 1.1)

Data compiled by EU countries and submitted to the European Commission use a narrower, but common, definition of animal experiments. The main difference with the definition used for the other statistics in this publication is that it is based on numbers of animals and excludes breeding to produce GM or HM animals. The latest data are for 2008<sup>2</sup>, of which some of the key points are as follows.

- Based on the latest internationally comparable data, the total number of animals used for experiments in the 27 EU Member States in 2008<sup>2</sup> was just over 12.0 million. The total fell by 1.7 per cent compared with 2005 for the EU25 Member States.
- In France, the UK and Germany there were experiments using 2.33 million animals, 2.27 million animals, and 2.02 million animals respectively.
- No apes were used in experiments anywhere in the EU in 2008. A total of 9,569 non-human primates were used in experiments across the EU27, a third (35% or 3,354) of which were used in the UK.

The full report is available on the Commission's website

[http://ec.europa.eu/environment/chemicals/lab\\_animals/reports\\_en.htm](http://ec.europa.eu/environment/chemicals/lab_animals/reports_en.htm).

<sup>1</sup> Commission Staff Working Paper - Report on the Statistics on the Number of Animals used for Experimental and other Scientific Purposes in the Member States of the European Union in the year 2008 (SEC (2010) 1107/final 2), available at [http://ec.europa.eu/environment/chemicals/lab\\_animals/reports\\_en.htm](http://ec.europa.eu/environment/chemicals/lab_animals/reports_en.htm) Data quoted are from Tables 1.0 and 1.1 of the Commission Working Paper SEC (2010) 1107/final 2.

<sup>2</sup> Data for France related to 2007.

## Returns, project licensees and designated places

(Appendix A Table 19)

Statistical returns are required each year from every person who holds a project licence for part or all of the year. For 2011 there were 3,165 licensees providing returns reporting either starting procedures (2,543 licensees, of which 13 reported only 'non-countable' procedures<sup>1</sup>) or reporting none (622 licensees).

There were 2,624 project licences in force at the end of 2011 compared with 2,614 at the end of 2010, following falls in most of the last few years. Similarly, the number of certificates of designation in force authorising places where work is carried out was 181 at the end of 2011 compared with 188 at the end of 2010, again after falls in recent years. The number of personal licences in force decreased, to 15,403 at the end of 2011, compared with 15,721 at the end of 2010.

## Further information

Further information about the work of the Animals in Science Regulation Unit can be found at <http://homeoffice.gov.uk/science-research/animal-research/>

Information about the Animal Procedures Committee can be found at <http://www.homeoffice.gov.uk/agencies-public-bodies/apc/>

Information about the National Centre for the Replacement, Refinement and Reduction of Animals in research NC3Rs can be found at <http://www.nc3rs.org.uk/>

Information relating to Northern Ireland is published by the Department of Health, Social Services and Public Safety and can be found at <http://www.dhsspsni.gov.uk/healthprotection-animalscience>

Information on public attitudes to animal testing is available from MORI at <http://www.ipsos-mori.com/researchspecialisms/socialresearch/specareas/nhspublichealth/attitudestowardsanimalexperimentation.aspx>

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<sup>1</sup>It is not possible to collect accurate figures on numbers of procedures started using immature forms (e.g. larvae, embryos, fish fry). Information is collected indicating when such procedures using such forms are carried out, which are classified as „non-countable“ procedures.



Table 1 Scientific procedures by species of animal and primary purpose of the procedure, page 1 of 2

Species of animal	Number of procedures									
	Primary purpose of the procedure					Total				
	Fundamental biological research	Applied studies - human medicine or dentistry	Applied studies - veterinary medicine	Protection of man, animals or environment	Education	Training	Forensic enquiries	Direct diagnosis	Breeding of GM or HM animals	Total
<b>Mammal</b>										
<b>Mouse</b>	864,182	318,304	14,612	17,776	903	-	-	4,433	1,459,553	2,679,763
<b>Rat</b>	86,491	137,751	121	33,064	445	720	-	6	12,937	271,535
<b>Guinea pig</b>	2,283	7,811	1,112	122	100	-	-	109	-	11,537
<b>Hamster</b>	883	787	118	206	-	-	-	-	-	1,994
<b>Gerbil</b>	508	-	-	-	-	-	-	-	-	508
<b>Other rodent</b>	2,969	214	60	653	-	-	-	-	-	3,896
<b>Rabbit</b>	1,467	8,346	2,373	1,767	20	-	-	1,462	26	15,461
<b>Cat</b>	207	-	28	-	-	-	-	-	-	235
<b>Dog</b>										
Beagle	125	3,811	229	193	-	-	-	-	-	4,358
Greyhound	-	-	-	-	-	-	-	-	-	-
Other including cross-bred dogs	158	-	36	-	-	-	-	-	-	194
<b>Ferret</b>	285	380	4	-	13	-	-	9	-	691
<b>Other carnivore</b>	565	-	68	162	-	-	-	-	-	795
<b>Horse and other equids</b>	144	-	308	-	-	-	-	7,928	-	8,380
<b>Pig</b>	1,371	908	1,976	24	-	-	-	-	61	4,340
<b>Goat</b>	113	5	2	7	-	-	-	69	-	196
<b>Sheep</b>	4,306	699	1,263	82	-	-	-	31,183	181	37,714
<b>Cattle</b>	3,410	-	1,551	21	-	-	-	120	-	5,102
<b>Deer</b>	50	-	-	-	-	-	-	-	-	50
<b>Camelid</b>	257	-	-	-	-	-	-	-	-	257
<b>Other ungulate</b>	12	-	-	-	-	-	-	-	-	12

Table 1 Scientific procedures by species of animal and primary purpose of the procedure, page 2 of 2

Species of animal	Primary purpose of the procedure										Number of procedures		
	Fundamental biological research	Applied studies - human medicine or dentistry	Applied studies - veterinary medicine	Protection of man, animals or environment	Education	Training	Forensic enquiries	Direct diagnosis	Breeding of GM or HM animals	Total			
<b>Primate</b>													
Prosimian	-	-	-	-	-	-	-	-	-	-	-	-	
<b>New World monkey</b>													
marmoset, tamarin	154	197										351	
Squirrel, owl, spider monkey	-	-	-	-	-	-	-	-	-	-	-	-	
Other New World monkey	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Old World monkey</b>													
Macaque	177	1,652		287							8	2,124	
Baboon	-	-	-	-	-	-	-	-	-	-	-	-	
Other Old World monkey	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Ape</b>													
Gibbon	-	-	-	-	-	-	-	-	-	-	-	-	
Great ape	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Other mammal</b>													
525		20										545	
<b>Bird</b>													
Domestic fowl ( <i>Gallus domesticus</i> )	6,234	28	140,529	274							1,377	149,044	
Turkey	460	171	2,628								150	3,409	
Quail ( <i>Coturnix coturnix</i> )	34											34	
Quail (not <i>Coturnix coturnix</i> )	131			752								883	
Other bird	6,680			2,099							469	9,248	
Reptile - any reptilian species	383											383	
Amphibian - any amphibian species	11,867			419								15,915	
Fish - any fish species	342,442	1,731	19,975	58,908							23	563,903	
Cephalopod - <i>Octopus vulgaris</i>	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>	<b>1,338,873</b>	<b>482,795</b>	<b>187,013</b>	<b>116,816</b>	<b>1,481</b>	<b>720</b>	<b>23</b>	<b>47,323</b>	<b>1,617,813</b>	<b>3,792,857</b>			
Increase on 2010	44,370	-40,593	26,531	41,019	-679	43	23	616	-3,199	68,131			
Percentage change from 2010	3%	-8%	17%	54%	-31%	6%	N/A	1%	-0%	2%			
Percentage of total for 2011	35%	13%	5%	3%	0.0%	0.0%	0%	1%	43%	100%			
2010 Totals	1,294,503	523,388	160,482	75,797	2,160	677	0	46,707	1,621,012	3,724,726			

N/A = Not applicable

Table 1a Animals used, by species of animal and primary purpose of the procedure, page 1 of 2

Species of animal	Primary purpose of the procedure										Number of animals		
	Fundamental biological research	Applied studies - human medicine or dentistry	Applied studies - veterinary medicine	Protection of man, animals or environment	Education	Training	Forensic enquiries	Direct diagnosis	Breeding of GM or HMI animals	Total	Total		
<b>Mammal</b>													
<b>Mouse</b>	854,921	314,712	14,596	17,648	903	-	-	4,433	1,456,228				2,663,441
<b>Rat</b>	80,825	136,279	121	32,802	445	720	-	6	12,937				264,135
<b>Guinea pig</b>	2,283	7,803	1,112	122	100	-	-	94	-				11,514
<b>Hamster</b>	883	787	118	206	-	-	-	-	-				1,994
<b>Gerbil</b>	491	-	-	-	-	-	-	-	-				491
<b>Other rodent</b>	1,825	214	60	653	-	-	-	-	-				2,752
<b>Rabbit</b>	1,172	5,913	1,550	1,767	14	-	-	1,402	26				11,844
<b>Cat</b>	125	-	28	-	-	-	-	-	-				153
<b>Dog</b>													
Beagle	67	2,332	219	153	-	-	-	-	-				2,771
Greyhound	-	-	-	-	-	-	-	-	-				-
Other including cross-bred dogs	58	-	36	-	-	-	-	-	-				94
<b>Ferret</b>	285	241	4	-	13	-	-	9	-				552
<b>Other carnivore</b>	557	-	23	162	-	-	-	-	-				742
<b>Horse and other equids</b>	67	-	230	-	-	-	-	36	-				333
<b>Pig</b>	1,371	795	1,730	5	-	-	-	-	61				3,962
<b>Goat</b>	33	3	2	7	-	-	-	69	-				114
<b>Sheep</b>	4,251	599	1,040	70	-	-	-	1,196	181				7,337
<b>Cattle</b>	2,178	-	1,467	15	-	-	-	112	-				3,772
<b>Deer</b>	50	-	-	-	-	-	-	-	-				50
<b>Camelid</b>	257	-	-	-	-	-	-	-	-				257
<b>Other ungulate</b>	-	-	-	-	-	-	-	-	-				-



Table 1a Animals used, by species of animal and primary purpose of the procedure, page 2 of 2

Species of animal	Primary purpose of the procedure							Number of animals			
	Fundamental biological research	Applied studies - human medicine or dentistry	Applied studies - veterinary medicine	Protection of man, animals or environment	Education	Training	Forensic enquiries	Direct diagnosis	Breeding of GM or HM animals	Total	
<b>Primate</b>											
Prosimian	-	-	-	-	-	-	-	-	-	-	-
<b>New World monkey</b>											
marmoset, tamarin	125	119	-	-	-	-	-	-	-	-	244
Squirrel, owl, spider monkey	-	-	-	-	-	-	-	-	-	-	-
Other New World monkey	-	-	-	-	-	-	-	-	-	-	-
<b>Old World monkey</b>											
Macaque	77	932	-	206	-	-	-	-	-	-	1,215
Baboon	-	-	-	-	-	-	-	-	-	-	-
Other Old World monkey	-	-	-	-	-	-	-	-	-	-	-
<b>Ape</b>											
Gibbon	-	-	-	-	-	-	-	-	-	-	-
Great ape	-	-	-	-	-	-	-	-	-	-	-
<b>Other mammal</b>											
444	-	-	20	-	-	-	-	-	-	-	464
<b>Bird</b>											
Domestic fowl ( <i>Gallus domesticus</i> )	6,234	15	140,529	235	-	-	-	1,377	602	-	148,992
Turkey	460	44	2,628	-	-	-	-	55	-	-	3,187
Quail ( <i>Coturnix coturnix</i> )	34	-	-	-	-	-	-	-	-	-	34
Quail (not <i>Coturnix coturnix</i> )	131	-	-	752	-	-	-	-	-	-	883
Other bird	6,390	-	-	2,099	-	-	-	148	-	-	8,637
Reptile - any reptilian species	383	-	-	-	-	-	-	-	-	-	383
Amphibian - any amphibian species	4,379	-	-	419	-	-	-	-	3,231	-	8,029
Fish - any fish species	340,911	1,731	19,975	58,908	-	-	-	-	140,697	-	562,245
Cephalopod - <i>Octopus vulgaris</i>	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1,311,267</b>	<b>472,519</b>	<b>185,488</b>	<b>116,229</b>	<b>1,475</b>	<b>720</b>	<b>23</b>	<b>8,937</b>	<b>1,613,963</b>	<b>3,710,621</b>	
Increase on 2010	43,621	-39,265	27,641	40,671	-679	43	23	602	-4,553	68,104	
Percentage change from 2010	3%	-8%	18%	54%	-32%	6%	N/A	7%	-0%	2%	
Percentage of total for 2011	35%	13%	5%	3%	0.0%	0.0%	0%	0.2%	43%	100%	
2010 Totals	1,267,646	511,784	157,847	75,558	2,154	677	0	8,335	1,618,516	3,642,517	

N/A = Not applicable

**Table 2 Scientific procedures by Schedule 2 listed species and source of animals**

Species of animal	Source							Number of procedures	
	Animals acquired from within own designated establishment	Animals acquired from another designated breeding or supplying establishment in the UK	Animals acquired from non-designated sources in the UK	Animals acquired from sources within the EU (outside the UK)	Animals acquired from Council of Europe countries who are signatories to ETS123	Animals acquired from other sources	Animals not listed in Schedule 2	Total	
<b>Mouse</b>	2,108,970	551,337	261	7,372	155	11,668	-	<b>2,679,763</b>	
<b>Rat</b>	46,844	223,427	94	650	1	519	-	<b>271,535</b>	
<b>Guinea pig</b>	222	7,589	-	3,726	-	-	-	<b>11,537</b>	
<b>Hamster</b>	263	1,274	-	457	-	-	-	<b>1,994</b>	
<b>Gerbil</b>	425	5	-	-	-	78	-	<b>508</b>	
<b>Rabbit</b>	4,650	9,918	3	821	-	69	-	<b>15,461</b>	
<b>Cat</b>	73	-	11	149	-	2	-	<b>235</b>	
<b>Dog</b>	1,309	2,481	66	428	-	268	-	<b>4,552</b>	
<b>Ferret</b>	30	661	-	-	-	-	-	<b>691</b>	
<b>Pig (genetically modified)</b>	34	-	-	-	-	-	-	<b>34</b>	
<b>Sheep (genetically modified)</b>	-	2	4	-	-	-	-	<b>6</b>	
<b>Primate</b>	647	611	-	48	-	1,169	-	<b>2,475</b>	
<b>Quail (<i>Coturnix coturnix</i>)</b>	-	34	-	-	-	-	-	<b>34</b>	
Animals not listed in Schedule 2	-	-	-	-	-	-	804,032	<b>804,032</b>	
<b>Total</b>	<b>2,163,467</b>	<b>797,339</b>	<b>439</b>	<b>13,651</b>	<b>156</b>	<b>13,773</b>	<b>804,032</b>	<b>3,792,857</b>	
Increase on 2010	648	-33,192	348	2,591	-86	-1,363	99,185	68,131	
Percentage change from 2010	0%	-4%	382%	23%	-36%	-9%	14%	2%	
Percentage of total for 2011	57%	21%	0.0%	0.4%	0.0%	0.4%	21%	100%	
2010 Totals	2,162,819	830,531	91	11,060	242	15,136	704,847	3,724,726	

Note. The total number of procedures using animals listed in schedule 2 was 2,988,825.

**Table 3 Scientific procedures by species of animal, and genetic status**

**Summary Version**

Note. For numbers of procedures by purpose, see full table available on the website

**Great Britain 2011**

**Number of procedures**

Species of animal	Genetic status			Total
	Normal animal	Animal with harmful genetic	Genetically modified animal	
<b>Mammal</b>				
<b>Mouse</b>	828,857	322,518	1,528,388	<b>2,679,763</b>
<b>Rat</b>	255,627	11,394	4,514	<b>271,535</b>
<b>Guinea pig</b>	11,537	-	-	<b>11,537</b>
<b>Hamster</b>	1,994	-	-	<b>1,994</b>
<b>Gerbil</b>	508	-	-	<b>508</b>
<b>Other rodent</b>	3,896	-	-	<b>3,896</b>
<b>Rabbit</b>	15,448	-	13	<b>15,461</b>
<b>Cat</b>	235	-	-	<b>235</b>
<b>Dog</b>				
Beagle	4,358	-	-	<b>4,358</b>
Greyhound	-	-	-	<b>-</b>
Other inc cross-breds	194	-	-	<b>194</b>
<b>Ferret</b>	691	-	-	<b>691</b>
<b>Other carnivore</b>	795	-	-	<b>795</b>
<b>Horse and other equids</b>	8,380	-	-	<b>8,380</b>
<b>Pig</b>	4,306	-	34	<b>4,340</b>
<b>Goat</b>	196	-	-	<b>196</b>
<b>Sheep</b>	37,708	-	6	<b>37,714</b>
<b>Cattle</b>	5,102	-	-	<b>5,102</b>
<b>Deer</b>	50	-	-	<b>50</b>
<b>Camelid</b>	257	-	-	<b>257</b>
<b>Other ungulate</b>	12	-	-	<b>12</b>
<b>Primate</b>				
Prosimian	-	-	-	<b>-</b>
<b>New World monkey</b>				
marmoset, tamarin	351	-	-	<b>351</b>
Squirrel, owl, spider monkey	-	-	-	<b>-</b>
Other New World monkey	-	-	-	<b>-</b>
<b>Old World monkey</b>				
Macaque	2,124	-	-	<b>2,124</b>
Baboon	-	-	-	<b>-</b>
Other Old World monkey	-	-	-	<b>-</b>
<b>Ape</b>				
Gibbon	-	-	-	<b>-</b>
Great ape	-	-	-	<b>-</b>
Other mammal	545	-	-	<b>545</b>
<b>Bird</b>				
Domestic fowl ( <i>Gallus domesticus</i> )	148,215	478	351	<b>149,044</b>
Turkey	3,409	-	-	<b>3,409</b>
Quail ( <i>Coturnix coturnix</i> )	34	-	-	<b>34</b>
Quail (not <i>Coturnix coturnix</i> )	883	-	-	<b>883</b>
Other bird	9,248	-	-	<b>9,248</b>
<b>Reptile</b>	383	-	-	<b>383</b>
<b>Amphibian</b>	12,002	2,870	1,043	<b>15,915</b>
<b>Fish</b>	406,129	38,433	119,341	<b>563,903</b>
<b>Cephalopod</b>	-	-	-	<b>-</b>
<b>Total</b>	<b>1,763,474</b>	<b>375,693</b>	<b>1,653,690</b>	<b>3,792,857</b>
Percentage of total for 2011	46%	10%	44%	100%

**Table 4 Scientific procedures by species of animal and target body system**

Species of animal	Body systems											Number of procedures		
	Respiratory	Cardiovascular	Nervous	Senses	Alimentary	Skin	Musculo-skeletal	Reproductive	Immune and reticulo-endothelial	Other system	Multiple systems	System not relevant	Total	
Mammal														
<b>Mouse</b>	63,565	99,016	277,883	41,981	48,817	48,820	37,370	218,100	463,340	80,520	635,329	665,022	<b>2,679,763</b>	
<b>Rat</b>	20,303	16,539	69,643	2,372	5,395	794	1,421	29,293	5,212	5,938	56,030	58,595	<b>271,535</b>	
<b>All other rodents</b>	2,982	3,916	131	365	409	58	54	15	4,998	10	3,809	1,188	<b>17,935</b>	
<b>Rabbit</b>	72	885	-	230	157	1,070	160	1,986	3,579	765	4,744	1,813	<b>15,461</b>	
<b>Cat</b>	-	-	48	6	13	-	-	-	-	-	151	17	<b>235</b>	
<b>Dog</b>	19	261	-	-	131	-	30	55	58	215	1,773	2,010	<b>4,552</b>	
<b>Ferret</b>	248	13	-	38	-	-	-	-	55	-	83	254	<b>691</b>	
<b>Other carnivore</b>	-	49	-	-	-	-	-	71	-	-	38	637	<b>795</b>	
<b>Horse and other equids</b>	16	57	-	-	-	-	7	13	221	5,965	103	1,998	<b>8,380</b>	
<b>Pig</b>	218	191	77	27	705	79	1	26	581	27	1,604	804	<b>4,340</b>	
<b>Sheep</b>	65	211	144	-	775	77	383	1,388	1,490	28,682	2,462	2,037	<b>37,714</b>	
<b>All other ungulates</b>	549	47	4	-	1,224	-	-	958	981	34	1,718	102	<b>5,617</b>	
New World monkey	-	8	86	-	-	-	-	-	-	-	68	189	<b>351</b>	
Old World monkey	9	41	57	5	-	-	-	-	2	-	792	1,218	<b>2,124</b>	
<b>All other mammals</b>	-	-	-	13	-	131	-	3	-	-	-	398	<b>545</b>	
<b>Bird</b>	84	718	1,474	425	3,898	57	371	1,237	3,594	121,798	21,018	7,944	<b>162,618</b>	
Reptile	-	-	-	-	-	-	-	-	-	383	-	-	<b>383</b>	
Amphibian	-	-	158	-	-	605	197	12,687	-	-	1,419	849	<b>15,915</b>	
<b>Fish</b>	26,940	10,352	70,422	5,708	3,036	5,455	3,987	58,062	28,455	4,054	252,010	95,422	<b>563,903</b>	
<b>Total</b>	<b>115,070</b>	<b>132,304</b>	<b>420,127</b>	<b>51,170</b>	<b>64,560</b>	<b>57,146</b>	<b>43,981</b>	<b>323,894</b>	<b>512,566</b>	<b>248,391</b>	<b>983,151</b>	<b>840,497</b>	<b>3,792,857</b>	
Increase on 2010	27,623	10,993	43,437	-4,855	-18,243	-5,992	-7,805	2,599	46,528	10,221	88,507	-124,882	68,131	
Percentage change from 2010	32%	9%	12%	-9%	-22%	-9%	-15%	1%	10%	4%	10%	-13%	2%	
Percentage of total for 2011	3%	3%	11%	1%	2%	2%	1%	9%	14%	7%	26%	22%	100%	
2010 Totals	87,447	121,311	376,690	56,025	82,803	63,138	51,786	321,295	466,038	238,170	894,644	965,379	3,724,726	

Table 5 Scientific procedures by species of animal and level of anaesthesia

Species of animal	No anaesthesia	Type of anaesthesia			Number of procedures	
		General anaesthesia, with recovery	Local anaesthesia	General anaesthesia at end of procedure, without recovery	General anaesthesia throughout, without recovery	Total
Mammal						
Mouse	1,984,204	396,591	144,433	106,142	48,393	2,679,763
Rat	143,674	76,465	712	27,083	23,601	271,535
All other rodents	11,722	2,863	548	1,721	1,081	17,935
Rabbit	9,010	760	1,861	1,678	2,152	15,461
Cat	148	87	-	-	-	235
Dog	3,944	264	35	188	121	4,552
Ferret	83	565	-	31	12	691
Other carnivore	402	393	-	-	-	795
Horse and other equids	362	-	8,014	4	-	8,380
Pig	3,269	606	25	19	421	4,340
Sheep	36,362	1,019	259	51	23	37,714
All other ungulates	5,418	87	110	-	2	5,617
Primate						
New World monkey	195	53	-	33	70	351
Old World monkey	1,497	598	-	6	23	2,124
All other mammals	401	3	131	-	10	545
Bird	45,092	340	88	116,052	1,046	162,618
Reptile	383	-	-	-	-	383
Amphibian	15,304	430	-	107	74	15,915
Fish	434,251	77,343	85	51,516	708	563,903
<b>Total</b>	<b>2,695,721</b>	<b>558,467</b>	<b>156,301</b>	<b>304,631</b>	<b>77,737</b>	<b>3,792,857</b>
Increase on 2010	127,435	-63,997	-50,049	72,294	-17,552	68,131
Percentage change from 2010	5%	-10%	-24%	31%	-18%	2%
Percentage of total for 2011	71%	15%	4%	8%	2%	100%
2010 Totals	2,568,286	622,464	206,350	232,337	95,289	3,724,726

Note. Neuromuscular blocking agents (NMBA) were used in 2,547 procedures in 2011. All of these procedures involved the use of general anaesthesia.

Table 6 Scientific procedures (non-toxicology) by species of animal and field of research, page 1 of 4

Species of animal	Field of research											Number of procedures			
	Anatomy	Physiology	Biochemistry	Psychology	Pathology	Immunology	Microbiology	Parasitology	Pharmacology	Pharmaceutical R&D	Therapeutics	Clinical medicine	Clinical surgery		
<b>Mammal</b>															
Mouse	229,570	361,418	26,331	34,196	65,876	503,753	29,565	29,764	50,260	127,515	14,014	12,001	1,533		
Rat	6,866	30,030	1,177	9,998	3,045	5,898	1,039	404	20,503	53,860	3,963	4,902	1,196		
Guinea pig	-	370	-	-	23	412	451	1	1,663	1,565	96	-	-		
Hamster	-	231	-	-	-	300	426	33	-	129	110	20	-		
Gerbil	79	9	-	-	-	18	-	368	-	-	34	-	-		
Other rodent	-	2	-	-	-	-	154	2,840	-	214	-	-	-		
Rabbit	62	557	214	-	76	1,442	507	17	77	1,929	219	98	16		
Cat	-	-	-	-	-	-	-	-	59	-	6	-	-		
Dog	-	-	-	-	-	-	-	-	-	-	-	-	-		
Beagle	-	-	-	-	-	58	-	-	15	644	-	-	-		
Greyhound	-	-	-	-	-	-	-	-	-	-	-	-	-		
Other including cross-bred dogs	-	-	-	-	-	-	-	-	-	14	-	-	-		
Ferret	8	24	-	6	-	72	539	-	13	3	-	-	-		
Other carnivore	-	-	-	73	-	108	-	-	30	-	-	-	-		
Horse and other equids	9	26	-	-	-	165	7,996	-	28	-	-	60	4		
Pig	62	304	-	-	280	321	233	140	32	61	152	72	53		
Goat	-	18	-	89	-	65	6	-	-	5	-	4	-		
Sheep	177	660	231	321	392	699	30,389	700	-	159	23	357	222		
Cattle	-	1,163	-	-	8	746	47	236	-	-	-	-	-		
Deer	-	-	-	-	-	-	-	-	-	-	-	-	-		
Camelid	-	-	-	-	-	257	-	-	-	-	-	-	-		
Other ungulate	-	-	-	12	-	-	-	-	-	-	-	-	-		

Table 6 Scientific procedures (non-toxicology) by species of animal and field of research, page 2 of 4

Species of animal	Field of research											Number of procedures		
	Anatomy	Physiology	Biochemistry	Psychology	Pathology	Immunology	Microbiology	Parasitology	Pharmacology	Pharmaceutical R&D	Therapeutics	Clinical medicine	Clinical surgery	
<b>Primate</b>														
Prosimian	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>New World monkey</b>	17	74	5	36	-	4	12	-	13	81	-	-	-	
marmoset, tamarin	-	-	-	-	-	-	-	-	-	-	-	-	-	
Squirrel, owl, spider monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other New World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Old World monkey</b>	2	20	67	40	-	42	48	-	-	345	2	-	-	
Macaque	-	-	-	-	-	-	-	-	-	-	-	-	-	
Baboon	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other Old World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Ape</b>														
Gibbon	-	-	-	-	-	-	-	-	-	-	-	-	-	
Great ape	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Other mammal</b>	-	10	-	-	3	-	-	-	-	-	-	-	-	
<b>Bird</b>														
Domestic fowl ( <i>Gallus domesticus</i> )	780	1,513	8	60	-	729	4,632	117,178	-	263	254	4	-	
Turkey	-	8	-	-	-	-	277	55	-	757	-	-	-	
Quail ( <i>Coturnix coturnix</i> )	-	34	-	-	-	-	-	-	-	-	-	-	-	
Quail (spp. other than <i>Coturnix coturnix</i> )	-	11	-	-	-	-	-	-	-	-	-	-	-	
Other bird	13	73	-	224	-	674	382	-	-	-	-	-	-	
Reptile - any reptilian species	-	-	-	-	-	-	-	-	-	-	-	-	-	
Amphibian - any amphibian species	8,574	544	1,344	-	-	-	1,050	695	25	6	-	-	-	
Fish - any fish species	111,034	207,455	-	1,131	3,956	16,338	9,742	4,923	1,605	40,866	300	311	-	
Cephalopod - <i>Octopus vulgaris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>	<b>357,253</b>	<b>604,554</b>	<b>29,377</b>	<b>46,186</b>	<b>73,659</b>	<b>532,101</b>	<b>87,495</b>	<b>157,354</b>	<b>74,323</b>	<b>228,416</b>	<b>19,173</b>	<b>17,829</b>	<b>3,024</b>	
Increase on 2010	-27,037	115,141	-11,856	-5,525	-2,560	62,039	-13,210	22,041	-2,468	2,737	-2,947	319	1,067	
Percentage change from 2010	-7%	24%	-29%	-11%	-3%	13%	-13%	16%	-3%	1%	-13%	2%	55%	
Percentage of total for 2011	11%	18%	1%	1%	2%	16%	3%	5%	2%	7%	1%	0.5%	0.1%	
2010 Totals	384,290	489,413	41,233	51,711	76,219	470,062	100,705	135,313	76,791	225,679	22,120	17,510	1,957	

Table 6 Scientific procedures (non-toxicology) by species of animal and field of research, page 3 of 4

Great Britain 2011 Species of animal	Field of research										Number of procedures			
	Dentistry	Genetics	Molecular biology	Cancer research	Nutrition	Zoology	Botany	Animal science	Ecology	Animal welfare	Other	Tobacco (1)	Alcohol	Total
Mammal														
Mouse	79	319,133	169,105	408,922	2,353	-	13	22	184	104	126,075	-	361	2,512,147
Rat	2	608	3,903	4,449	2,172	-	12	-	-	99	5,212	-	-	159,338
Guinea pig	-	-	-	-	-	-	-	-	-	-	-	-	-	4,581
Hamster	-	-	-	32	32	-	-	-	-	-	-	-	-	1,313
Gerbil	-	-	-	-	-	-	-	-	-	-	-	-	-	508
Other rodent	-	-	-	-	-	-	-	-	435	21	-	-	-	3,666
Rabbit	-	-	-	-	-	-	6	-	-	11	13	-	-	5,244
Cat	-	-	-	-	153	-	-	-	-	-	-	-	-	218
Dog	-	-	-	-	-	-	-	-	-	-	-	-	-	717
Beagle	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greyhound	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other including cross-bred dogs	-	-	-	22	158	-	-	-	-	-	-	-	-	194
Ferret	-	-	-	-	-	-	-	-	-	-	-	-	-	665
Other carnivore	-	-	-	-	-	-	-	-	511	-	-	-	-	757
Horse and other equids	-	-	-	-	20	35	-	-	-	-	-	-	-	8,308
Pig	-	-	-	6	451	-	-	298	-	-	-	-	-	2,465
Goat	-	-	-	-	-	-	-	2	-	-	-	-	-	189
Sheep	-	208	-	-	135	-	-	2,195	-	17	332	-	-	37,217
Cattle	-	136	-	-	117	-	-	1,681	-	-	-	-	-	4,134
Deer	-	50	-	-	-	-	-	-	-	-	-	-	-	50
Camelid	-	-	-	-	-	-	-	-	-	-	-	-	-	257
Other ungulate	-	-	-	-	-	-	-	-	-	-	-	-	-	12

(1) Following a decision in 1997, procedures using animals in research on tobacco have not been allowed.



Table 6 Scientific procedures (non-toxicology) by species of animal and field of research, page 4 of 4

Species of animal	Field of research											Number of procedures			
	Dentistry	Genetics	Molecular biology	Cancer research	Nutrition	Zoology	Botany	Animal science	Ecology	Animal welfare	Other	Tobacco (1)	Alcohol	Total	
<b>Primate</b>															
Prosimian	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>New World monkey</b>															
marmoset, tamarin	-	-	-	-	-	-	-	-	-	-	-	-	-	242	
Squirrel, owl, spider monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other New World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Old World monkey</b>															
Macaque	-	-	-	-	-	-	-	-	-	-	-	-	-	566	
Baboon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other Old World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Ape</b>															
Gibbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Great ape	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Other mammal</b>															
Other mammal	-	154	-	-	-	-	-	-	378	-	-	-	-	545	
<b>Bird</b>															
Domestic fowl ( <i>Gallus domesticus</i> )	-	72	-	-	9,958	-	-	290	-	780	-	-	-	136,521	
Turkey	-	-	-	-	216	-	-	165	-	-	-	-	-	1,478	
Quail ( <i>Coturnix coturnix</i> )	-	-	-	-	-	-	-	-	-	-	-	-	-	34	
Quail (sp. other than <i>Coturnix coturnix</i> )	-	-	-	-	-	120	-	-	-	-	-	-	-	131	
Other bird	-	-	-	-	-	2,919	-	2	3,901	614	-	-	-	8,802	
Reptile - any reptilian species	-	-	-	-	-	383	-	-	-	-	-	-	-	383	
Amphibian - any amphibian species	-	2,321	778	156	-	-	3	-	-	-	-	-	-	15,496	
Fish - any fish species	-	23,012	6,509	18,070	2,884	1,623	-	4,007	33,580	27	-	-	180	487,553	
Cephalopod - <i>Octopus vulgaris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>	<b>81</b>	<b>345,694</b>	<b>180,295</b>	<b>431,657</b>	<b>18,649</b>	<b>5,080</b>	<b>34</b>	<b>8,662</b>	<b>35,989</b>	<b>1,673</b>	<b>131,632</b>	<b>541</b>	<b>3,393,731</b>		
Increase on 2010	-33	-295	7,234	-10,217	3,419	-1,016	25	2,281	-30,276	443	-49,399	0	292	60,199	
Percentage change from 2010	-29%	-0%	4%	-2%	22.4%	-17%	278%	36%	-44%	36%	-27%	N/A	117%	2%	
Percentage of total for 2011	0.0%	10%	5%	13%	0.5%	0.1%	0.0%	0.3%	1%	0.0%	4%	0%	0.0%	100%	
2010 Totals	114	345,989	173,061	441,874	15,230	6,096	9	6,381	69,265	1,230	181,031	0	249	3,333,532	

(1) Following a decision in 1997, procedures using animals in research on tobacco have not been allowed.

N/A = Not applicable

Table 6a Animals used (non-toxicology), by species of animal and field of research, page 1 of 4

Species of animal	Field of research										Number of animals		
	Anatomy	Physiology	Biochemistry	Psychology	Pathology	Immunology	Microbiology	Parasitology	Pharmacology	Pharmaceutical R&D	Therapeutics	Clinical medicine	Clinical surgery
Mammal													
Mouse	229,228	359,387	26,310	33,833	65,719	502,227	29,565	29,764	49,527	125,335	13,991	11,950	1,533
Rat	6,863	30,005	1,177	9,534	2,766	5,636	1,039	404	20,476	48,686	3,914	4,322	1,196
Guinea pig	-	370	-	-	23	412	436	1	1,663	1,565	96	-	-
Hamster	-	231	-	-	-	300	426	33	-	129	110	20	-
Gerbil	79	9	-	-	-	18	-	351	-	-	34	-	-
Other rodent	-	2	-	-	-	-	154	1,696	-	214	-	-	-
Rabbit	62	556	1	-	68	1,442	447	-	77	1,923	214	39	16
Cat	-	-	-	-	-	-	-	-	11	-	6	-	-
Dog	-	-	-	-	-	-	-	-	-	-	-	-	-
Beagle	-	-	-	-	-	48	-	-	8	171	-	-	-
Greyhound	-	-	-	-	-	-	-	-	-	-	-	-	-
Other including cross-bred dogs	-	-	-	-	-	-	-	-	-	14	-	-	-
Ferret	8	24	-	6	-	72	405	-	13	3	-	-	-
Other carnivore	-	-	-	65	-	108	-	-	4	-	-	-	-
Horse and other equids	9	26	-	-	-	96	92	-	10	-	-	4	4
Pig	62	304	-	-	280	185	233	140	30	52	148	72	53
Goat	-	10	-	17	-	65	6	-	-	3	-	4	-
Sheep	177	660	231	321	342	388	598	665	-	66	23	334	222
Cattle	-	1,163	-	-	8	685	47	212	-	-	-	-	-
Deer	-	-	-	-	-	-	-	-	-	-	-	-	-
Camelid	-	-	-	-	-	-	-	-	-	-	-	-	-
Other ungulate	-	-	-	-	-	257	-	-	-	-	-	-	-

Table 6a Animals used (non-toxicology), by species of animal and field of research, page 2 of 4

Species of animal	Field of research										Number of animals		
	Anatomy	Physiology	Biochemistry	Psychology	Pathology	Immunology	Microbiology	Parasitology	Pharmacology	Pharmaceutical R&D	Therapeutics	Clinical medicine	Clinical surgery
<b>Primate</b>													
Prosimian	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>New World monkey</b>													
marmoset, tamarin	17	53	5	34	-	4	12	-	13	79	-	-	-
Squirrel, owl, spider monkey	-	-	-	-	-	-	-	-	-	-	-	-	-
Other New World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Old World monkey</b>													
Macaque	-	16	7	6	-	42	48	-	-	24	2	-	-
Baboon	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Old World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Ape</b>													
Gibbon	-	-	-	-	-	-	-	-	-	-	-	-	-
Great ape	-	-	-	-	-	-	-	-	-	-	-	-	-
Other mammal	-	10	-	-	3	-	-	-	-	-	-	-	-
<b>Bird</b>													
Domestic fowl (Gallus domesticus)	780	1,513	8	60	-	729	4,632	117,178	-	250	254	4	-
Turkey	-	8	-	-	-	-	136	55	-	676	-	-	-
Quail (Coturnix coturnix)	-	34	-	-	-	-	-	-	-	-	-	-	-
Quail (sp.other than Coturnix coturnix)	-	11	-	-	-	-	-	-	-	-	-	-	-
Other bird	13	73	-	112	-	211	382	-	-	-	-	-	-
Reptile - any reptilian species	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphibian - any amphibian species	2,944	107	205	-	-	-	1,050	695	25	5	-	-	-
Fish - any fish species	110,320	207,267	-	916	3,956	16,275	9,742	4,923	1,605	40,866	300	311	-
Cephalopod - <i>Octopus vulgaris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>350,562</b>	<b>601,839</b>	<b>27,944</b>	<b>44,904</b>	<b>73,165</b>	<b>529,200</b>	<b>49,450</b>	<b>156,117</b>	<b>73,462</b>	<b>220,061</b>	<b>19,092</b>	<b>17,060</b>	<b>3,024</b>

Table 6a Animals used (non-toxicology), by species of animal and field of research, page 3 of 4

Great Britain 2010 Species of animal	Field of research											Number of animals	
	Dentistry	Genetics	Molecular biology	Cancer research	Nutrition	Zoology	Botany	Animal science	Ecology	Animal welfare	Tobacco(1)	Alcohol	Total
Mammal													
Mouse	79	318,936	167,981	402,417	2,353	-	13	6	184	104	126,075	361	2,496,878
Rat	2	608	3,903	4,403	2,172	-	12	-	-	99	5,212	-	152,429
Guinea pig	-	-	-	-	-	-	-	-	-	-	-	-	4,566
Hamster	-	-	-	32	32	-	-	-	-	-	-	-	1,313
Gerbil	-	-	-	-	-	-	-	-	-	-	-	-	491
Other rodent	-	-	-	-	-	-	-	-	435	21	-	-	2,522
Rabbit	-	-	-	-	-	-	6	-	-	11	7	-	4,869
Cat	-	-	-	-	119	-	-	-	-	-	-	-	136
Dog	-	-	-	-	-	-	-	-	-	-	-	-	-
Beagle	-	-	-	-	-	-	-	-	-	-	-	-	227
Greyhound	-	-	-	-	-	-	-	-	-	-	-	-	-
Other including cross-bred dogs	-	-	-	22	58	-	-	-	-	-	-	-	94
Ferret	-	-	-	-	-	-	-	-	-	-	-	-	531
Other carnivore	-	-	-	-	-	35	-	-	511	-	-	-	723
Horse and other equids	-	-	-	-	20	-	-	-	-	-	-	-	261
Pig	-	-	-	6	451	-	-	298	-	-	-	-	2,314
Goat	-	-	-	-	-	-	-	2	-	-	-	-	107
Sheep	-	208	-	-	128	-	-	2,135	-	17	332	-	6,847
Cattle	-	136	-	-	70	-	-	497	-	-	-	-	2,818
Deer	-	50	-	-	-	-	-	-	-	-	-	-	50
Camelid	-	-	-	-	-	-	-	-	-	-	-	-	257
Other ungulate	-	-	-	-	-	-	-	-	-	-	-	-	-

(1) Following a decision in 1997, procedures using animals in research on tobacco have not been allowed.

Table 6a Animals used (non-toxicology), by species of animal and field of research, page 4 of 4

Species of animal	Field of research											Number of animals		
	Dentistry	Genetics	Molecular biology	Cancer research	Nutrition	Zoology	Botany	Animal science	Ecology	Animal welfare	Other	Tobacco(1)	Alcohol	Total
<b>Primate</b>														
Prosimian	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>New World monkey</b>														
marmoset, tamarin	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Squirrel, owl, spider monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	217
Other New World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Old World monkey</b>														
Macaque	-	-	-	-	-	-	-	-	-	-	-	-	-	145
Baboon	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Old World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Ape</b>														
Gibbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Great ape	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Other mammal</b>		154							297					464
<b>Bird</b>														
Domestic fowl ( <i>Gallus domesticus</i> )	-	72	-	-	9,958	-	-	251	-	780	-	-	-	136,469
Turkey	-	-	-	-	216	-	-	165	-	-	-	-	-	1,256
Quail ( <i>Coturnix coturnix</i> )	-	-	-	-	-	-	-	-	-	-	-	-	-	34
Quail (sp.other than <i>Coturnix coturnix</i> )	-	-	-	-	-	120	-	-	-	-	-	-	-	131
Other bird	-	-	-	-	-	2,919	-	2	3,865	614	-	-	-	8,191
Reptile - any reptilian species	-	-	-	-	-	383	-	-	-	-	-	-	-	383
Amphibian - any amphibian species	-	2,321	178	80	-	-	-	-	-	-	-	-	-	7,610
Fish - any fish species	-	22,977	6,509	18,070	2,730	1,623	-	4,007	33,291	27	-	-	180	485,895
Cephalopod - <i>Octopus vulgaris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>81</b>	<b>345,462</b>	<b>178,571</b>	<b>425,030</b>	<b>18,307</b>	<b>5,080</b>	<b>31</b>	<b>7,363</b>	<b>38,583</b>	<b>1,673</b>	<b>131,626</b>	<b>-</b>	<b>541</b>	<b>3,318,228</b>

(1) Following a decision in 1997, procedures using animals in research on tobacco have not been allowed.

Table 7 Scientific procedures (non-toxicology) by species of animal and production of biological materials

Species of animal	Production							Number of procedures	
	Infectious agents	Vectors	Neoplasms	Monoclonal antibodies (ascites model)	Monoclonal antibodies (initial immunisation)	Polyclonal antibodies	Other biological materials	Other <sup>(1)</sup>	Total
<b>Mammal</b>									
Mouse	24,463	5,150	10,251	-	1,731	2,290	114,497	2,353,765	2,512,147
Rat	466	4	259	-	61	115	14,020	144,413	159,338
<b>All other rodents</b>	347	-	24	-	2	146	119	9,430	10,068
Rabbit	48	15	-	-	46	3,252	308	1,575	5,244
Cat	-	-	-	-	-	-	-	218	218
Dog	-	-	-	-	-	-	541	370	911
Ferret	-	-	-	-	-	102	-	563	665
<b>Other carnivore</b>	-	-	-	-	-	-	19	738	757
<b>Horse and other equids</b>	-	-	-	-	-	-	6,046	2,262	8,308
<b>Pigs, sheep &amp; all other ungulates</b>	760	-	-	-	33	1,011	30,308	12,212	44,324
<b>Primate</b>									
New World monkey	-	-	-	-	-	-	85	157	242
Old World monkey	-	-	-	-	-	2	308	256	566
<b>All other mammals</b>	-	-	-	-	-	-	3	542	545
<b>Bird</b>	116,695	-	-	-	-	477	2,048	27,746	146,966
Reptile, Amphibian	-	-	-	-	-	-	7,634	8,245	15,879
Fish	4,685	-	-	-	-	-	1,353	481,515	487,553
<b>Total</b>	<b>147,464</b>	<b>5,169</b>	<b>10,534</b>	<b>-</b>	<b>1,873</b>	<b>7,395</b>	<b>177,289</b>	<b>3,044,007</b>	<b>3,393,731</b>
Increase on 2010	20,141	-1,715	1,943	0	-271	-822	-21,866	62,789	60,199
Percentage change from 2010	16%	-25%	23%	N/A	-13%	-10%	-11%	2%	1.8%
Percentage of total for 2011	4%	0.2%	0.3%	0%	0.1%	0.2%	5%	90%	100%
2010 Totals	127,323	6,884	8,591	0	2,144	8,217	199,155	2,981,218	3,333,532

(1) Includes breeding procedures which are now detailed in Tables 3.1 - 3.3

Table 9 Scientific procedures (toxicology) by species of animal and toxicological purpose, page 1 of 4

Great Britain 2011 Species of animal	Toxicology or other safety/efficacy evaluation										Number of procedures	
	General safety/efficacy evaluation										Finished cosmetics(2)	Cosmetics ingredients(2)
	Pollution	Agriculture	Industry	Household	Food additives	Other foodstuffs						
Mammal												
Mouse	1,165	5,789	5,364	-	-	3,628	-	-	-	-	-	-
Rat	842	12,447	12,433	-	3,412	397	-	-	-	-	-	-
Guinea pig	-	-	-	-	-	-	-	-	-	-	-	-
Hamster	-	-	80	-	-	-	-	-	-	-	-	-
Gerbil	-	-	-	-	-	-	-	-	-	-	-	-
Other rodent	-	48	-	-	-	-	-	-	-	-	-	-
Rabbit	-	1,008	646	-	104	-	-	-	-	-	-	-
Cat	-	-	-	-	-	-	-	-	-	-	-	-
Dog	-	-	-	-	-	-	-	-	-	-	-	-
Beagle	-	65	-	-	8	64	-	-	-	-	-	-
Greyhound	-	-	-	-	-	-	-	-	-	-	-	-
Other including cross-bred dogs	-	-	-	-	-	-	-	-	-	-	-	-
Ferret	-	-	-	-	-	-	-	-	-	-	-	-
Other carnivore	-	-	-	-	-	-	-	-	-	-	-	-
Horse, donkey and cross-bred equids	-	-	-	-	-	-	-	-	-	-	-	-
Pig	-	5	-	-	-	-	-	-	-	-	-	-
Goat	-	6	-	-	-	-	-	-	-	-	-	-
Sheep	-	-	-	-	-	-	-	-	-	-	-	-
Cattle	-	19	-	-	-	-	-	-	-	-	-	-
Deer	-	-	-	-	-	-	-	-	-	-	-	-
Camelid	-	-	-	-	-	-	-	-	-	-	-	-
Other ungulate	-	-	-	-	-	-	-	-	-	-	-	-

(2) Following a decision in 1998, procedures using animals in research on finished cosmetics and on cosmetic ingredients have not been allowed.

Table 9 Scientific procedures (toxicology) by species of animal and toxicological purpose, page 2 of 4

Species of animal	Great Britain 2011										Number of procedures	
	Toxicology or other safety/efficacy evaluation										Finished cosmetics(2)	Cosmetics ingredients(2)
	General safety/efficacy evaluation					Toxicology or other safety/efficacy evaluation						
	Pollution	Agriculture	Industry	Household	Food additives	Other foodstuffs						
<b>Primate</b>												
Prosimian	-	-	-	-	-	-	-	-	-	-	-	-
<b>New World monkey</b>												
marmoset, tamarin	-	-	-	-	-	-	-	-	-	-	-	-
Squirrel, owl, spider monkey	-	-	-	-	-	-	-	-	-	-	-	-
Other New World monkey	-	-	-	-	-	-	-	-	-	-	-	-
<b>Old World monkey</b>												
Macaque	-	-	-	-	-	-	-	-	-	-	-	-
Baboon	-	-	-	-	-	-	-	-	-	-	-	-
Other Old World monkey	-	-	-	-	-	-	-	-	-	-	-	-
<b>Ape</b>												
Gibbon	-	-	-	-	-	-	-	-	-	-	-	-
Great Ape	-	-	-	-	-	-	-	-	-	-	-	-
<b>Other mammal</b>												
<b>Bird</b>												
Domestic fowl (Gallus domesticus)	-	235	-	-	-	-	-	-	-	-	-	-
Turkey	-	64	-	-	-	-	-	-	-	-	-	-
Quail (Coturnix coturnix)	-	-	-	-	-	-	-	-	-	-	-	-
Quail (spp.other than Coturnix coturnix)	-	752	-	-	-	-	-	-	-	-	-	-
Other bird	64	382	-	-	-	-	-	-	-	-	-	-
Reptile - any reptilian species	-	-	-	-	-	-	-	-	-	-	-	-
Amphibian - any amphibian species	400	-	-	-	-	-	-	-	-	-	-	-
Fish - any fish species	11,205	1,965	680	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>13,676</b>	<b>22,785</b>	<b>19,203</b>	<b>-</b>	<b>3,524</b>	<b>4,089</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Increase on 2010	5,254	5,808	-7,901	-24	2,409	-3,599	0	0	0	0	0	0
Percentage change from 2010	62%	34%	-29%	N/A	216%	-47%	N/A	N/A	N/A	N/A	N/A	N/A
Percentage of total for 2011	3%	6%	5%	0%	0.9%	1%	0%	0%	0%	0%	0%	0%
2010 Totals	8,422	16,977	27,104	24	1,115	7,688	0	0	0	0	0	0

N/A = Not applicable

(2) Following a decision in 1998, procedures using animals in research on finished cosmetics and on cosmetic ingredients have not been allowed.



Table 9 Scientific procedures (toxicology) by species of animal and toxicological purpose, page 3 of 4

Great Britain 2011 Species of animal	Toxicology or other safety/efficacy evaluation										Number of procedures					
	Pharmaceutical safety/efficacy evaluation					Other purposes					Method development	Other	Total			
	Safety testing	Efficacy testing	Quality control	ADME and residue	Toxicology research	Tobacco safety(1)	Medical device safety									
<b>Mammal</b>																
Mouse	32,063	3,475	99,988	7,925	1,390	-	980	4,210	1,639	167,616						
Rat	64,722	117	757	10,854	453	-	424	3,288	2,051	112,197						
Guinea pig	1,146	31	5,407	20	39	-	299	14	-	6,956						
Hamster	390	118	-	93	-	-	-	-	-	681						
Gerbil	-	-	-	-	-	-	-	-	-	-						
Other rodent	-	-	-	-	-	-	-	-	-	182						
Rabbit	4,640	9	3,075	121	-	-	419	185	10	10,217						
Cat	17	-	-	-	-	-	-	-	-	17						
Dog																
Beagle	2,434	-	-	889	-	-	1	165	15	3,641						
Greyhound	-	-	-	-	-	-	-	-	-	-						
Other including cross-bred dogs	-	-	-	-	-	-	-	-	-	-						
Ferret	-	21	-	5	-	-	-	-	-	26						
Other carnivore	-	38	-	-	-	-	-	-	-	38						
Horse and other equids	32	40	-	-	-	-	-	-	-	72						
Pig	422	845	-	110	4	-	47	439	3	1,875						
Goat	-	-	-	1	-	-	-	-	-	7						
Sheep	76	160	128	48	-	-	69	16	-	497						
Cattle	12	754	22	147	-	-	-	6	8	968						
Deer	-	-	-	-	-	-	-	-	-	-						
Camelid	-	-	-	-	-	-	-	-	-	-						
Other ungulate	-	-	-	-	-	-	-	-	-	-						

(1) Following a decision in 1997, procedures using animals in research on tobacco have not been allowed.

Table 9 Scientific procedures (toxicology) by species of animal and toxicological purpose, page 4 of 4

Species of animal	Toxicology or other safety/efficacy evaluation										Number of procedures										
	Pharmaceutical safety/efficacy evaluation					Other purposes					Total										
	Safety testing	Efficacy testing	Quality control	ADME and residue	Toxicology research	Tobacco safety(1)	Medical device safety	Method development	Other												
<b>Primate</b>																					
Prosimian	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>New World monkey</b>																					
marmoset, tamarin	83	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	109
Squirrel, owl, spider monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other New World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Old World monkey</b>																					
Macaque	877	-	-	357	-	-	-	-	-	-	-	-	324	-	-	-	-	-	-	-	1,558
Baboon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Old World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Ape</b>																					
Gibbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Great Ape	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Other mammal</b>																					
<b>Bird</b>																					
Domestic fowl (Gallus domesticus)	1,997	9,091	909	30	-	-	-	-	-	-	-	-	261	-	-	-	-	-	-	-	12,523
Turkey	1,187	677	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	1,931
Quail (Coturnix coturnix)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quail (spp,other than Coturnix coturnix)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	752
Other bird	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	446
Reptile - any reptilian species	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphibian - any amphibian species	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	419
Fish - any fish species	44,796	7,977	-	900	-	-	-	-	259	-	-	-	8,568	-	-	-	-	-	-	-	76,350
<b>Total</b>	<b>154,894</b>	<b>23,353</b>	<b>110,286</b>	<b>21,500</b>	<b>2,145</b>	<b>-</b>	<b>2,239</b>	<b>17,505</b>	<b>3,927</b>	<b>-</b>	<b>2,239</b>	<b>17,505</b>	<b>3,927</b>	<b>399,126</b>	<b>-</b>	<b>1,165</b>	<b>-2,753</b>	<b>-295</b>	<b>-7%</b>	<b>1%</b>	<b>100%</b>
Increase on 2010	32,983	-3,039	17,060	-3,425	-35,711	0	1,165	-2,753	-295	0	1,165	-2,753	-295	7,932	0	1,165	-2,753	-295	-7%	1%	100%
Percentage change from 2010	27%	-12%	18%	-14%	-94%	N/A	108%	-14%	-7%	N/A	108%	-14%	-7%	2%							
Percentage of total for 2011	39%	6%	28%	5%	1%	0%	0.6%	4%	1%	0%	0.6%	4%	1%	100%							
2010 Totals	121,911	26,392	93,226	24,925	37,856	0	1,074	20,258	4,222	0	1,074	20,258	4,222	391,194							

(1) Following a decision in 1997, procedures using an mals in research on tobacco have not been allowed.

N/A = Not applicable

Table 9a Animals used (toxicology), by species of animal and toxicological purpose, page 1 of 4

Species of animal	Toxicology or other safety/efficacy evaluation										Number of animals	
	General safety/efficacy evaluation										Finished cosmetics(2)	Cosmetics ingredients(2)
	Pollution	Agriculture	Industry	Household	Food additives	Other foodstuffs						
Mammal												
Mouse	1,165	5,789	5,364	-	-	3,628	-	-	-	-	-	-
Rat	842	12,431	12,433	-	3,412	397	-	-	-	-	-	-
Guinea pig	-	-	-	-	-	-	-	-	-	-	-	-
Hamster	-	-	80	-	-	-	-	-	-	-	-	-
Gerbil	-	-	-	-	-	-	-	-	-	-	-	-
Other rodent	-	48	-	-	-	-	-	-	-	-	-	-
Rabbit	-	1,008	646	-	104	-	-	-	-	-	-	-
Cat	-	-	-	-	-	-	-	-	-	-	-	-
Dog	-	-	-	-	-	-	-	-	-	-	-	-
Beagle	-	65	-	-	8	64	-	-	-	-	-	-
Greyhound	-	-	-	-	-	-	-	-	-	-	-	-
Other including cross-bred dogs	-	-	-	-	-	-	-	-	-	-	-	-
Ferret	-	-	-	-	-	-	-	-	-	-	-	-
Other carnivore	-	-	-	-	-	-	-	-	-	-	-	-
Horse and other equids	-	-	-	-	-	-	-	-	-	-	-	-
Pig	-	5	-	-	-	-	-	-	-	-	-	-
Goat	-	6	-	-	-	-	-	-	-	-	-	-
Sheep	-	-	-	-	-	-	-	-	-	-	-	-
Cattle	-	19	-	-	-	-	-	-	-	-	-	-
Deer	-	-	-	-	-	-	-	-	-	-	-	-
Camelid	-	-	-	-	-	-	-	-	-	-	-	-
Other ungulate	-	-	-	-	-	-	-	-	-	-	-	-

(2)Following a decision in 1998, procedures using animals in research on finished cosmetics and on cosmetic ingredients have not been allowed.

Table 9a Animals used (toxicology), by species of animal and toxicological purpose, page 2 of 4

Species of animal	Toxicology or other safety/efficacy evaluation										Number of animals	
	General safety/efficacy evaluation										Finished cosmetics(2)	Cosmetics ingredients(2)
	Pollution	Agriculture	Industry	Household	Food additives	Other foodstuffs						
<b>Primate</b>	-	-	-	-	-	-	-	-	-	-	-	-
Prosimian	-	-	-	-	-	-	-	-	-	-	-	-
<b>New World monkey</b>	-	-	-	-	-	-	-	-	-	-	-	-
marmoset, tamarin	-	-	-	-	-	-	-	-	-	-	-	-
Squirrel, owl, spider monkey	-	-	-	-	-	-	-	-	-	-	-	-
Other New World monkey	-	-	-	-	-	-	-	-	-	-	-	-
<b>Old World monkey</b>	-	-	-	-	-	-	-	-	-	-	-	-
Macaque	-	-	-	-	-	-	-	-	-	-	-	-
Baboon	-	-	-	-	-	-	-	-	-	-	-	-
Other Old World monkey	-	-	-	-	-	-	-	-	-	-	-	-
<b>Ape</b>	-	-	-	-	-	-	-	-	-	-	-	-
Gibbon	-	-	-	-	-	-	-	-	-	-	-	-
Great Ape	-	-	-	-	-	-	-	-	-	-	-	-
<b>Other mammal</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Bird</b>	-	-	-	-	-	-	-	-	-	-	-	-
Domestic fowl ( <i>Gallus domesticus</i> )	-	235	-	-	-	-	-	-	-	-	-	-
Turkey	-	64	-	-	-	-	-	-	-	-	-	-
Quail ( <i>Coturnix coturnix</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Quail (spp, other than <i>Coturnix coturnix</i> )	-	752	-	-	-	-	-	-	-	-	-	-
Other bird	64	382	-	-	-	-	-	-	-	-	-	-
Reptile - any reptilian species	-	-	-	-	-	-	-	-	-	-	-	-
Amphibian - any amphibian species	400	-	-	-	-	-	-	-	-	-	-	-
Fish - any fish species	11,205	1,965	680	-	-	-	-	-	-	-	-	-
Cephalopod - <i>Octopus vulgaris</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>13,676</b>	<b>22,769</b>	<b>19,203</b>	-	<b>3,524</b>	<b>4,089</b>	-	-	-	-	-	-

(2)Following a decision in 1998, procedures using animals in research on finished cosmetics and on cosmetic ingredients have not been allowed.

Table 9a Animals used (toxicology), by species of animal and toxicological purpose, page 3 of 4

Species of animal	Toxicology or other safety/efficacy evaluation										Number of animals		
	Pharmaceutical safety/efficacy evaluation					Other purposes					Total		
	Safety testing	Efficacy testing	Quality control	ADME and residue	Toxicology research	Tobacco safety (1)	Medical device safety	Method development	Other				
<b>Mammal</b>													
Mouse	32,011	2,955	99,988	7,692	1,390	-	980	3,962	1,639			166,563	
Rat	64,571	117	757	10,854	453	-	424	2,978	2,037			111,706	
Guinea pig	1,138	31	5,407	20	39	-	299	14	-			6,948	
Hamster	390	118	-	93	-	-	-	-	-			681	
Gerbil	-	-	-	-	-	-	-	-	-			-	
Other rodent	-	-	-	-	-	-	-	-	182			230	
Rabbit	3,143	6	1,561	121	-	-	368	8	10			6,975	
Cat	17	-	-	-	-	-	-	-	-			17	
Dog													
Beagle	2,223	-	-	123	-	-	1	52	8			2,544	
Greyhound	-	-	-	-	-	-	-	-	-			-	
Other including cross-bred dogs	-	-	-	-	-	-	-	-	-			-	
Ferret	-	21	-	-	-	-	-	-	-			21	
Other carnivore	-	19	-	-	-	-	-	-	-			19	
Horse and other equids	32	40	-	-	-	-	-	-	-			72	
Pig	405	749	-	43	4	-	46	394	2			1,648	
Goat	-	-	-	1	-	-	-	-	-			7	
Sheep	76	160	121	48	-	-	69	16	-			490	
Cattle	12	754	22	147	-	-	-	-	-			954	
Deer	-	-	-	-	-	-	-	-	-			-	
Camelid	-	-	-	-	-	-	-	-	-			-	
Other ungulate	-	-	-	-	-	-	-	-	-			-	

(1) Following a decision in 1997, procedures using animals in research on tobacco have not been allowed.

Table 9a Animals used (toxicology), by species of animal and toxicological purpose, page 4 of 4

Species of animal	Toxicology or other safety/efficacy evaluation										Number of animals			
	Pharmaceutical safety/efficacy evaluation					Other purposes					Total			
	Safety testing	Efficacy testing	Quality control	ADME and residue	Toxicology research	Tobacco safety (1)	Medical device safety	Method development	Other					
<b>Primate</b>														
Prosimian	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>New World monkey</b>														
marmoset, tamarin	27	-	-	-	-	-	-	-	-	-	-	-	-	27
Squirrel, owl, spider monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other New World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Old World monkey</b>														
Macaque	775	-	-	76	-	-	-	219	-	-	-	-	-	1,070
Baboon	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Old World monkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Ape</b>														
Gibbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Great Ape	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Other mammal</b>														
<b>Bird</b>														
Domestic fowl (Gallus domesticus)	1,997	9,091	909	30	-	-	-	261	-	-	-	-	-	12,523
Turkey	1,187	677	-	-	-	-	-	3	-	-	-	-	-	1,931
Quail (Coturnix coturnix)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quail (spp. other than Coturnix coturnix)	-	-	-	-	-	-	-	-	-	-	-	-	-	752
Other bird	-	-	-	-	-	-	-	-	-	-	-	-	-	446
Reptile - any reptilian species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphibian - any amphibian species	-	-	-	-	-	-	-	-	-	-	-	-	19	419
Fish - any fish species	44,796	7,977	-	900	259	-	-	8,568	-	-	-	-	-	76,350
Cephalopod - <i>Octopus vulgaris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>152,800</b>	<b>22,715</b>	<b>108,765</b>	<b>20,148</b>	<b>2,145</b>	<b>-</b>	<b>2,187</b>	<b>16,475</b>	<b>3,897</b>	<b>-</b>	<b>2,187</b>	<b>16,475</b>	<b>3,897</b>	<b>392,393</b>

(1) Following a decision in 1997, procedures using animals in research on tobacco have not been allowed.

**Table 10 Scientific procedures (toxicology) by species of animal and type of legislation**  
**Summary version**

Note. For numbers of procedures by purpose, see full table available on the website

Species of animal	UK requirements only	One EU country only (not UK)	EU requirements, incl. European Pharmacopoeia	Requirements of (non-EU) Council of Europe	Requirements of other countries	Any combination of legislative requirements	Number of procedures	
							Non-legislative purposes	Total
<b>Mammal</b>								
Mouse	1,493	-	8,042	46	580	151,163	6,292	167,616
Rat	434	27	900	-	272	104,462	6,102	112,197
All other rodents	128	-	717	-	221	6,414	387	7,867
Rabbit	240	-	2,511	-	39	7,169	258	10,217
Cat	-	-	15	-	-	2	-	17
Dog	-	-	35	-	-	3,299	307	3,641
Ferret	-	-	-	-	-	26	-	26
Other carnivore	38	-	-	-	-	-	-	38
Horse and other equids	-	-	72	-	-	-	-	72
Pigs, sheep & all other ungulates	80	-	1,539	-	111	1,591	26	3,347
<b>Primate</b>								
New World monkey	-	-	-	-	-	96	13	109
Old World monkey	-	-	-	-	-	1,549	9	1,558
<b>All other mammals</b>								
Bird	-	1,535	2,281	-	-	11,572	264	15,652
Reptile / Amphibian	-	-	-	-	-	419	-	419
Fish	858	-	11,290	-	1,317	10,859	52,026	76,350
<b>Total</b>	<b>3,271</b>	<b>1,562</b>	<b>27,402</b>	<b>46</b>	<b>2,540</b>	<b>298,621</b>	<b>65,684</b>	<b>399,126</b>
Increase on 2010	124	1,548	-479	-15	-2,003	17,589	-8,832	7,932
Percentage change from 2010	4%	11057%	-2%	N/A	-44%	6%	-12%	2%
Percentage of total for 2011	1%	0.4%	7%	0%	1%	75%	16%	100%
2010 Totals	3,147	14	27,881	61	4,543	281,032	74,516	391,194

N/A = Not applicable





Table 11 Scientific procedures (toxicology) by species of animal and type of toxicological test: all purposes, page 2 of 2

Species of animal	Type of toxicological test or procedure										Number of procedures	
	Other reproductive toxicity	In eyes	For skin irritation	For skin sensitisation	Toxicokinetics	Pyrogenicity	Biocompatibility	Enzyme induction for in vitro tests	Immunotoxicology	Other toxicology	Total	Total
Mammal												
Mouse	156	-	104	1,306	7,639	-	250	18	7,885	41,296	167,616	
Rat	34,230	-	-	-	9,985	-	94	164	624	14,085	112,197	
All other rodents	-	-	-	48	72	-	-	80	43	6,926	7,867	
Rabbit	162	692	989	-	96	4,281	188	-	-	1,754	10,217	
Cat	-	-	-	-	-	-	-	-	-	15	17	
Dog	95	-	-	-	342	-	-	-	-	1,051	3,641	
Ferret	-	-	-	-	-	-	-	-	-	26	26	
Other carnivore	-	-	-	-	-	-	-	-	-	38	38	
Horse and other equids	-	-	-	-	-	-	-	-	-	-	72	
Pigs, sheep & all other ungulates	-	-	-	-	202	-	-	-	-	-	3,347	
Primate	-	-	8	-	-	-	-	-	-	2,805	-	
New World monkey	-	-	-	-	-	-	-	-	-	96	109	
Old World monkey	-	-	-	-	282	-	-	-	-	444	1,558	
All other mammals	-	-	-	-	-	-	-	-	-	-	-	
Bird	556	-	-	-	108	-	-	-	-	13,844	15,652	
Reptile, amphibian	-	-	-	-	-	-	-	-	-	19	419	
Fish	1,280	-	-	-	1,110	-	-	-	4,575	48,490	76,350	
<b>Total</b>	<b>36,479</b>	<b>692</b>	<b>1,101</b>	<b>1,354</b>	<b>19,836</b>	<b>4,281</b>	<b>641</b>	<b>262</b>	<b>13,127</b>	<b>130,889</b>	<b>399,126</b>	
Increase on 2010	3,363	179	405	202	-3,661	-1,337	393	146	5,871	-15,960	7,932	
Percentage change from 2010	10%	35%	58%	18%	-16%	-24%	158%	126%	81%	-10.9%	2%	
Percentage of total for 2011	9%	0.2%	0.3%	0.3%	5%	1%	0.2%	0.1%	3%	33%	100%	
2010 Totals	33,116	513	696	1,152	23,497	5,618	248	116	7,256	146,849	391,194	

# Appendix A

## General system of control under the Animals (Scientific Procedures) Act 1986

### Introduction

1. The Animals (Scientific Procedures) Act 1986 puts into effect a rigorous system of controls on scientific work on living animals, including the need for both the researcher and the project to be separately licensed; stringent safeguards on animal pain and suffering; and general requirements to ensure the care and welfare of animals. The Act implements, and in some ways exceeds, the requirements of European Union Directive 86/609/EEC.
2. Operation of the Act is a reserved issue in Great Britain, the Home Office administering the legislation in England, Scotland and Wales. The Act is separately administered in Northern Ireland.

### Scope of the Act

3. The 1986 Act controls any experimental or other scientific procedure applied to a 'protected animal' which may have the effect of causing that animal pain, suffering, distress or lasting harm. Such work is referred to in the Act as a 'regulated procedure'.
4. 'Protected animals' are defined as all living vertebrate animals, except man, plus one invertebrate species, *Octopus vulgaris*. The definition extends to foetal, larval or embryonic forms that have reached specified stages in their development.
5. Under the Act an animal is regarded as 'living' until "the permanent cessation of circulation or complete destruction of its brain". Procedures carried out on decerebrate animals are also subject to the controls of the Act.
6. The definition of a regulated procedure encompasses most breeding of animals with genetic defects; production of antisera and other blood products; the maintenance and passage of tumours and parasites; and the administration for a scientific purpose of an anaesthetic, analgesic, tranquilliser or other drug to dull perception. Killing an animal requires licence authority in certain circumstances.
7. The controls of the 1986 Act do not extend to procedures applied to animals in the course of recognised veterinary, agricultural or animal husbandry practice; procedures for the identification of animals for scientific purposes, if this causes no more than momentary pain or distress and no lasting harm; or the administration of a novel veterinary product under authority of an Animal Test Exemption Certificate (issued under the Medicines Act 1968).
8. Two kinds of licence are required for all work controlled by the Act. The procedures must be part of a programme of work authorised by a project licence and the person applying the regulated procedures must hold a personal licence. No work may be done unless the procedure, the animals used and the place where the work is to be done are specifically authorised in both project and personal licences.

### Personal licences

9. A personal licence is the Home Secretary's endorsement that the holder is a suitable and competent person to carry out specified procedures on specified animals, under supervision where necessary. Applicants must be over 18 and are required to give details of their qualifications, training and experience. Those who have not previously held a

Home Office licence need the endorsement of a sponsor (usually a personal licence holder in a senior position at the applicant's place of work). Satisfactory completion of an accredited training course is also required before a personal licence is issued.

10. On 31 December 2011 there were 15,403 active personal licences. Personal licences continue to be in force until revoked, but they must be reviewed at least every five years.

### **Project licences**

11. A project licence is granted when the Home Secretary considers that the use of living animals in a programme of work, for a purpose permitted by the Act, is justified and the methods proposed appropriate.
12. In deciding whether and on what terms to authorise the project, the likely adverse effects on the animals used must be weighed against the potential benefits (to humans, other animals or the environment) which are expected to accrue from the work. Adequate consideration must also have been given to the feasibility of using alternative methods not involving living animals.
13. The holder of a project licence undertakes overall responsibility for the scientific direction and control of the work. New project licence applicants are required to complete an accredited training course before the licence is granted.
14. When making an application for a project licence the applicant nominates, and the Home Office assigns, an overall severity banding to the project. There are three main severity bandings: mild, moderate and substantial. A fourth band, unclassified, is used for procedures where the animals are decerebrate or used under terminal anaesthesia – i.e. the animal is anaesthetised before the procedure starts, is kept anaesthetised throughout the course of the procedure and is killed without recovering consciousness.
15. It is not possible to lay down hard and fast rules about how severity should be assessed. It depends not only upon the amount of suffering caused, but also the duration, the number of animals and what action is taken to reduce suffering, such as the use of anaesthesia or early endpoints. The overall severity is used in weighing the likely adverse effects on the animals against the benefits likely to accrue, as required by section 5(4) of the Act.
16. The following table details the number of project licences which were active on 31 December 2011, the number granted during 2011 and the number revoked during 2011 (usually either at the licence holder's request or because the licence had run the maximum allowed term of five years). The total figures are subdivided into severity bandings.

## Project licences by severity band – number and share of total, 2011

Severity band	In force on 31 December 2011		Granted during 2011		Revoked during 2011	
	Number	%	Number	%	Number	%
Mild	936	36%	202	36%	191	35%
Moderate	1,591	61%	344	61%	332	61%
Substantial	55	2%	10	2%	8	1%
Unclassified	42	2%	8	1%	14	3%
<b>Total</b>	<b>2,624</b>		<b>564</b>		<b>545</b>	

NB Percentages may not sum to 100 due to rounding.

### Designation of premises

17. Except where otherwise authorised in a project licence (e.g. for field work at a specified place and time), any place where work is carried out under the Act must be designated as a scientific procedure establishment. Since January 1990 establishments that breed certain types of animal listed in Schedule 2 to the Act – mouse, rat, guinea-pig, hamster, rabbit, dog, cat and primate – for use in scientific procedures ('breeding establishments'), and establishments that obtain such animals from elsewhere and supply them to laboratories ('supplying establishments') must hold a certificate of designation.
18. Quail *Coturnix coturnix* was added to the list of species specified in Schedule 2 of the Act in 1993, and ferrets, gerbils, genetically modified pigs and genetically modified sheep were added to the list in 1999. Designated establishments are required to nominate a person to be responsible for the day-to-day care of animals and a veterinary surgeon to advise on their health and welfare.
19. There were 181 certificates of designation in force on 31 December 2011. Of these, 178 were registered as user establishments, 113 as breeding establishments and 63 as supplying establishments. These figures add up to more than the total number of establishments because a single establishment may fall into more than one of the categories: for example, an establishment may be registered as both a breeder and user of animals.

**Table 19 Project licences and scientific procedures by type of designated establishment**

Great Britain 2011

Type of designated establishment	Number of licence holders <sup>(1)</sup> reporting countable <sup>(2)</sup> procedures, by number of procedures reported											Licencees reporting non-countable <sup>(2)</sup> procedures only	Number of licence holders <sup>(1)</sup> reporting no procedures	Total licencees	Procedures		
	Number of procedures reported														Total	Total	Percentage
	1 to 50	51 to 100	101 to 200	201 to 400	401 to 600	601 to 800	801 to 1,000	More than 1,000	Total								
Public health laboratories	3	3	3	2	1	0	1	3	16	3	2	21	9,608	0%			
Universities, medical schools	370	198	272	293	159	90	85	427	1,894	7	470	2,371	1,897,225	50%			
NHS hospitals	2	2	3	6	2	4	0	6	25	-	3	28	23,400	1%			
Government departments	28	13	8	10	5	3	0	13	80	-	23	103	61,500	2%			
Other public bodies	19	14	13	14	12	10	7	70	159	2	48	209	504,168	13%			
Non-profit-making organisations	14	8	6	17	7	2	5	43	102	-	23	125	295,451	8%			
Commercial organisations	32	15	27	31	25	19	11	93	253	2	53	308	1,001,505	26%			
<b>Total</b>	<b>468</b>	<b>253</b>	<b>332</b>	<b>373</b>	<b>211</b>	<b>128</b>	<b>109</b>	<b>655</b>	<b>2,529</b>	<b>14</b>	<b>622</b>	<b>3,165</b>	<b>3,792,857</b>	<b>100%</b>			

(1) Some licence-holders hold more than one licence; these figures are compiled by numbers of project licences, not by numbers of actual licence-holders.

(2) Only procedures on adult or free-living animals (including neonatal and juvenile mammals, and newly-hatched birds) are counted.

Details of procedures on immature forms (e.g. larvae, embryos, fish fry) are collected but not counted.

Animals in the wild involved in rodenticide trials are also not counted. Details (if applicable) are given in the Commentary.







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