

## 1. Animals used by species

Table 1: In total animals used by species<sup>1</sup>

Animal Species	Number of Animals	%
Mice	1.877.552	56.65%
Rats	357.124	10.78%
Guinea-Pigs	20.037	0.60%
Hamsters (Syrian)	1.628	0.05%
Hamsters (Chinese)	24	0.00%
Mongolian gerbil	3.960	0.12%
Other Rodents	22.781	0.69%
Rabbits	102.523	3.09%
Cats	581	0.02%
Dogs	2.202	0.07%
Ferrets	141	0.00%
Other carnivores	414	0.01%
Horses, donkeys & cross-breeds	635	0.02%
Pigs	13.768	0.42%
Goats	724	0.02%
Sheep	1.373	0.04%
Cattle	3.817	0.12%
Prosimians	85	0.00%
Marmoset and tamarins	234	0.01%
Cynomolgus monkey	1.475	0.04%
Rhesus monkey	111	0.00%
Baboons	2	0.00%
Other Mammals	1.607	0.05%
Domestic fowl	34.806	1.05%
Other birds	20.503	0.62%
Reptiles	707	0.02%
Rana	31	0.00%
Xenopus	7.929	0.24%
Other Amphibians	5.363	0.16%
Zebra fish	123.336	3.72%
Other Fish	708.462	21.38%
Cephalopods	63	0.00%
<b>Total</b>	<b>3.314.098</b>	<b>100%</b>

<sup>1</sup> Excludes re-use

Figure 1: Animals used by species groups

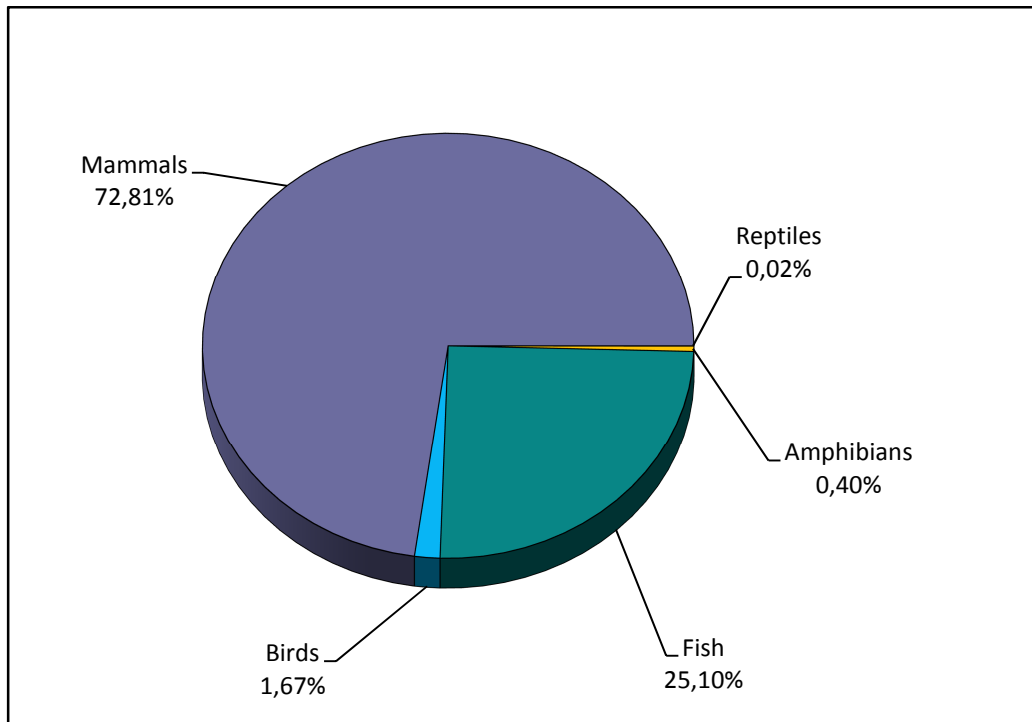


Table 2: Animals used by species groups

Species grouping Level 1	Number of Animals
Warm-blooded vertebrates	2.468.207
Cold-blooded vertebrates	845.828
Invertebrates	63
<b>Total</b>	<b>3.314.098</b>

Species grouping Level 2	Number of Animals
Mammals	2.412.898
Birds	55.309
Fish	831.798
Amphibians	13.323
Reptiles	707
Cephalopods	63
<b>Total</b>	<b>3.314.098</b>

Mammals	Number of Animals
Rodents	2.283.206
Rabbits	102.523
Carnivores	3.338
Equidae	635
Artiodactyla	19.682
Non-human primates	1.907
Other mammals	1.607
<b>Total</b>	<b>2.412.898</b>

Non-human primates	Number of Animals
Prosimians	85
New World Monkeys	234
Old World Monkeys	1.588
<b>Total</b>	<b>1.907</b>

## 2. Origin of used Animals<sup>2</sup>

Table 3: Origin of used animals in total

	Animals born in				Total
	the EU at a registered breeder	the EU but not at a registered breeder	rest of Europe	rest of the world	
Mice	1.817.726	53.797	313	5.716	<b>1.877.552</b>
Rats	349.368	6.095	1	1.660	<b>357.124</b>
Guinea-Pigs	19.949	88			<b>20.037</b>
Hamsters (Syrian)	1.628				<b>1.628</b>
Hamsters (Chinese)	24				<b>24</b>
Mongolian gerbil	3.921	39			<b>3.960</b>
Other Rodents	1.448	21.433			<b>22.881</b>
Rabbits	101.859	402		262	<b>102.523</b>
Cats	147	220		214	<b>581</b>
Dogs	324	678		1.200	<b>2.202</b>
Ferrets	129	12			<b>141</b>
Other carnivores	368	43	3		<b>414</b>
Horses, donkeys & cross-breeds	181	454			<b>635</b>
Pigs	10.129	3.639			<b>13.768</b>
Goats	78	646			<b>724</b>
Sheep	706	667			<b>1.373</b>
Cattle	2.791	1.026			<b>3.817</b>
Prosimians	85				<b>85</b>
Marmoset and tamarins	230			4	<b>234</b>

<sup>2</sup> Excludes re-use

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Cynomolgus monkey	14			1.461	<b>1.475</b>
Rhesus monkey	22			89	<b>111</b>
Baboons	2				<b>2</b>
Other Mammals	170	1.391	34	12	<b>1.607</b>
Domestic fowl	27.033	7.769	4		<b>34.806</b>
Other birds	13.617	6.735	42	109	<b>20.503</b>
Reptiles	25	368		231	<b>624</b>
Rana	13	18			<b>31</b>
Xenopus	5.668	107	13	2.141	<b>7.929</b>
Other Amphibians	1.513	3.510		340	<b>5.363</b>
Zebra fish	112.290	10.816	15	215	<b>123.336</b>
Other Fish	643.661	30.743	29674	4.384	<b>708.462</b>
Cephalopods		63			<b>63</b>
<b>Total</b>	<b>3.115.119</b>	<b>150.742</b>	<b>30.099</b>	<b>18.038</b>	<b>3.314.098</b>

Table 4 – 6: Origin of used animals by species groups

	Animals born in the EU at a registered breeder	Animals born in the EU but not at a registered breeder	Animals born in rest of Europe	Animals born in rest of the world	Total
Warm-blooded vertebrates	2.351.949	105.134	397	10.727	2.468.207
Cold-blooded vertebrates	763.170	45.645	29.702	7.311	845.828
Invertebrates		63			63
<b>Total</b>	<b>3.115.119</b>	<b>150.842</b>	<b>30.099</b>	<b>18.038</b>	<b>3.314.098</b>

	Animals born in the EU at a registered breeder	Animals born in the EU but not at a registered breeder	Animals born in rest of Europe	Animals born in rest of the world	Total
Mammals	2.311.299	90.630	351	10.618	2.412.898
Birds	40.650	14.504	46	109	55.309
Fish	755.951	41.559	29.689	4.599	831.798
Amphibians	7.194	3.718	13	2.481	13.406
Reptiles	25	368		231	624
Cephalopods		63			63
<b>Total</b>	<b>3.115.119</b>	<b>150.842</b>	<b>30.099</b>	<b>18.038</b>	<b>3.314.098</b>

	Animals born in the EU at a registered breeder	Animals born in the EU but not at a registered breeder	Animals born in rest of Europe	Animals born in rest of the world	Total
Rodents	2.194.064	81.452	314	7.376	2.283.206
Rabbits	101.529	402		262	102.523
Carnivores	968	953	3	1.414	3.338
Equidae	181	454			635
Artiodactyla	13.704	5.978			19.682
Non-human primates	353			1.554	1.907
Other mammals	170	1.391	34	12	1.607
<b>Total</b>	<b>2.311.299</b>	<b>90.630</b>	<b>351</b>	<b>10.618</b>	<b>2.412.898</b>

### 3. Non-Human Primates by source and generation<sup>3</sup>

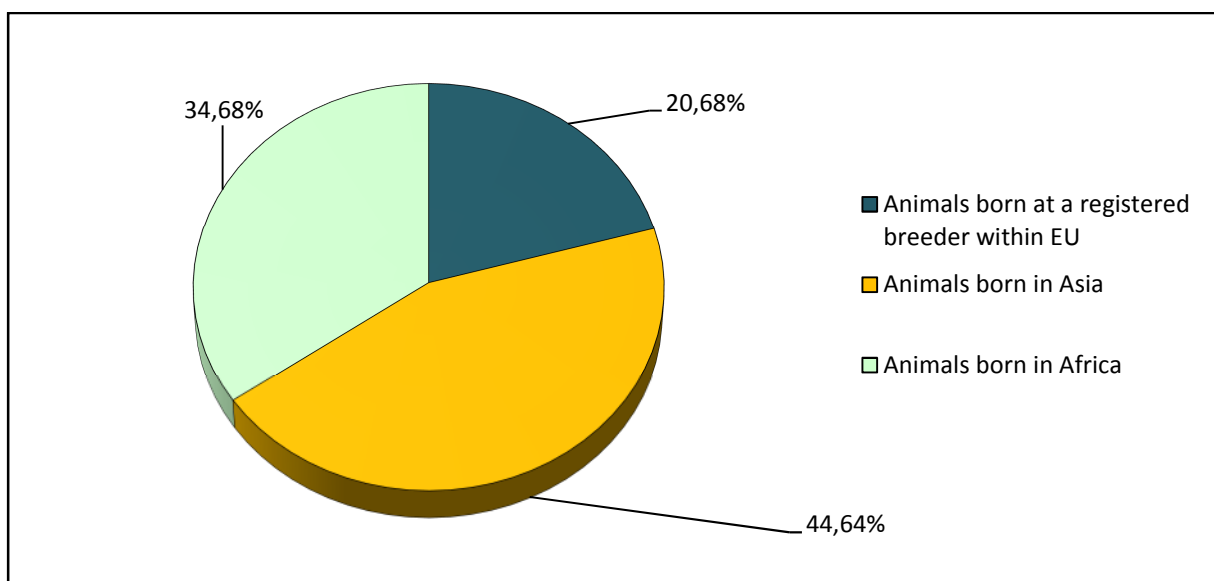
Table 7: Generation of non-human primates

NHP Generation	Number of Animals
F0	6
F1	563
F2 or greater	904
Self-sustaining colony	434
<b>Total</b>	<b>1.907</b>

Table 8: Origin of non-human primates

NHP Source (origin)	Number of Animals
Animals born at a registered breeder within EU	353
Animals born in rest of Europe	0
Animals born in Asia	762
Animals born in America	0
Animals born in Africa	592
Animals born elsewhere	0
<b>Total</b>	<b>1.907</b>

Figure 2: Origin of non-human primates (%)



<sup>3</sup> Excludes re-use



#### 4. Use of species in procedures by purposes

Table 9: Use of species in procedures by purposes

	Basic Research	Translational and applied research	Regulatory use and Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Maintenance of colonies of established genetically altered animals, not used in other procedures	Total
Mice	1.233.400	271.931	329.145		7.318	32.857		80.603	<b>1.901.985</b>
Rats	107.522	53.406	134.411		247	13.433	30	1.117	<b>362.530</b>
Guinea-Pigs	773	2.747	16.433			366	1		<b>20.576</b>
Hamsters (Syrian)	67	605	777			83			<b>1.632</b>
Hamsters (Chinese)	12		10			2			<b>24</b>
Mongolian gerbil	1.498	1.320	1.773			229			<b>4.820</b>
Other Rodents	3.731	1.689	17.089	186		256			<b>23.051</b>
Rabbits	1.349	1.174	102.703			337			<b>105.784</b>
Cats	152	267	519		2	57			<b>997</b>
Dogs	317	1.022	3.178		7	112			<b>4.636</b>
Ferrets	20	131	0			8			<b>159</b>
Other carnivores	9		368	37					<b>414</b>
Horses, donkeys & cross-breeds	569	74	84			54			<b>781</b>
Pigs	3.213	4.177	4.488	265		2.231			<b>14.374</b>
Goats	73	572	27			77			<b>749</b>
Sheep	308	767	648			214			<b>1.937</b>



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<b>Cattle</b>	2.360	1.057	631	144		214			<b>4.408</b>
<b>Prosimians</b>	148								<b>148</b>
<b>Marmoset and tamarins</b>	189		134			2			<b>325</b>
<b>Cynomolgus monkey</b>	27	90	1.678			10			<b>2.231</b>
<b>Rhesus monkey</b>	39	5	82			2			<b>128</b>
<b>Vervets Chlorocebus spp.</b>		5							<b>5</b>
<b>Baboons</b>	2								<b>2</b>
<b>Other species of Old World Monkeys</b>		3							<b>3</b>
<b>Other Mammals</b>	1.324	129	64	82	87	2			<b>1.688</b>
<b>Domestic fowl</b>	14.834	5.757	13.661			750			<b>35.002</b>
<b>Other birds</b>	10.977	4.331	5.129	2		256			<b>20.695</b>
<b>Reptiles</b>	460	24	280		159	14			<b>1.020</b>
<b>Rana</b>	9	6	5			11			<b>31</b>
<b>Xenopus</b>	9.398	48	89			525			<b>9.977</b>
<b>Other Amphibians</b>	4.972	245	104			42			<b>5.363</b>
<b>Zebra fish</b>	103.996	515	19.859	184		1.444		800	<b>126.798</b>
<b>Other Fish</b>	610.441	74.869	11.959	6.078	3.778	2.602			<b>709.727</b>
<b>Cephalopods</b>					18	45			<b>63</b>
<b>Total</b>	<b>2.112.189</b>	<b>426.966</b>	<b>665.328</b>	<b>6.978</b>	<b>11.616</b>	<b>56.235</b>	<b>31</b>	<b>82.520</b>	<b>3.362.063</b>

Figure 3: Use of animals in procedures by purposes

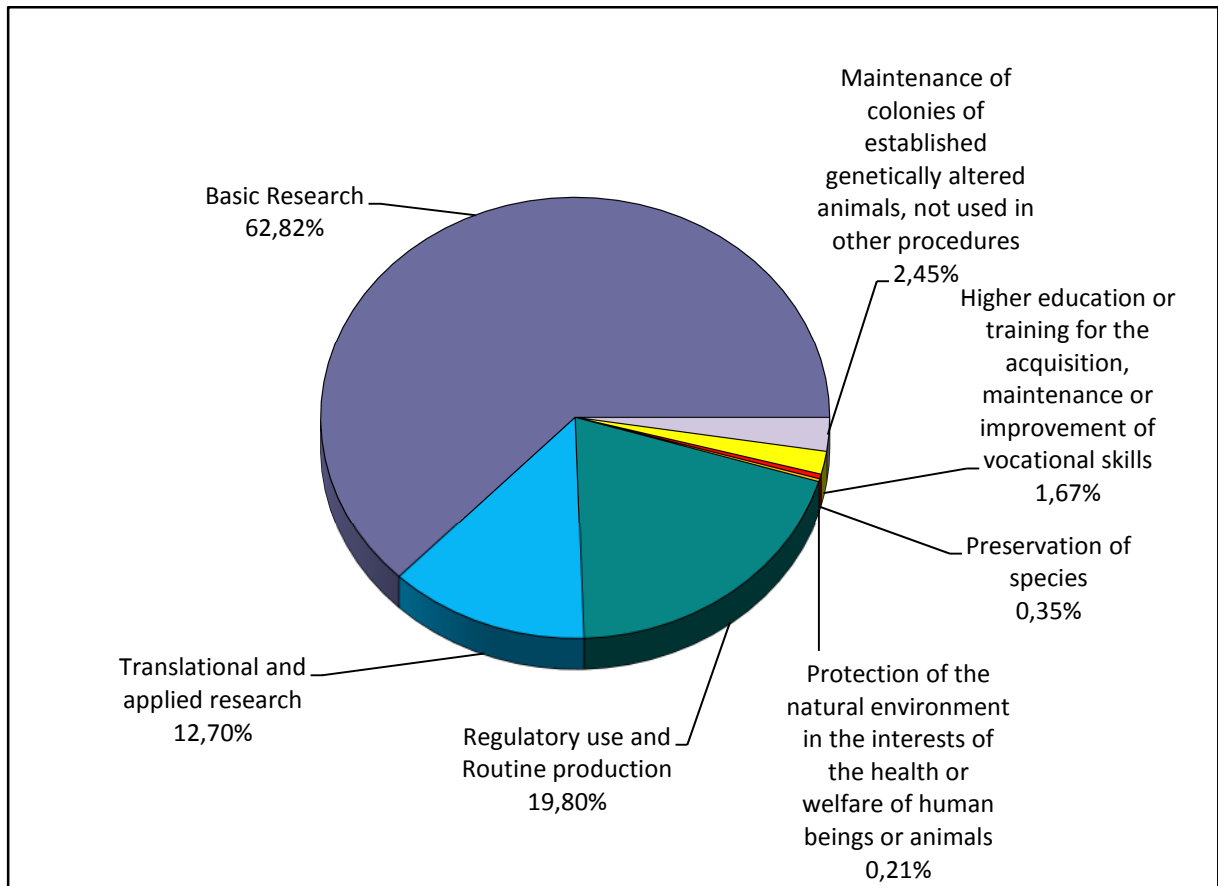


Table 10: Use of species in basic research purposes

	Oncology	Cardio-vascular Blood and Lymphatic System	Nervous System	Respiratory System	Gastrointestinal System including Liver	Musculoskeletal System	Immune System	Urogenital/ Reproductive System	Sensory Organs (skin, eyes and ears)	Endocrine System/ Metabolism	Multisystemic	Ethology / Animal Behaviour /Animal Biology	Other basic research	Total
Mice	95.578	121.555	250.934	62.047	45.043	15.477	332.266	20.358	32.602	51.571	71.377	4.495	130.097	<b>1.233.400</b>
Rats	2.192	27.968	48.697	2.512	4.088	1.240	5.524	1.554	1.592	2.238	2.450	421	7.046	<b>107.522</b>
Guinea-Pigs	50	52	24	85	116		40	6	272		20	73	35	<b>773</b>
Hamsters (Syrian)			67											<b>67</b>
Hamsters (Chinese)										12				<b>12</b>
Mongolian gerbil			1.293		125				61				19	<b>1.498</b>
Other Rodents	92		311				262		60	403	30	2.006	567	<b>3.731</b>
Rabbits	39	388	10	11		128	77	36	47	140	46		427	<b>1.349</b>
Cats			17		28				96				11	<b>152</b>
Dogs		20	104		22	120	18	3		6	22		2	<b>317</b>
Ferrets			20											<b>20</b>
Other carnivores												6	3	<b>9</b>
Horses, donkeys & cross-breeds				51	114	46	2	50		36		4	266	<b>569</b>
Pigs	10	483	48	186	337	50	512	39		390	154	290	714	<b>3.213</b>
Goats							1					72		<b>73</b>
Sheep		45	12	4	32	110	35		12		5	28	25	<b>308</b>

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Cattle		1	22		18		42	1.086		307		235	649	<b>2.360</b>
Prosimians			12						75			61		<b>148</b>
Marmoset and tamarins			47	34			28	23	2	55				<b>189</b>
Cynomolgus monkey			21					6						<b>27</b>
Rhesus monkey			28				10			1				<b>39</b>
Baboons							2							<b>2</b>
Other Mammals			36				187		7			953	141	<b>1.324</b>
Domestic fowl			4		1.730		9.927	8	290	412	174	1.055	1.234	<b>14.834</b>
Other birds		154	341		61	10	30	30	52		29	7.492	2.778	<b>10.977</b>
Reptiles			237	72	30			70	44			7		<b>460</b>
Rana		2										7		<b>9</b>
Xenopus		62	3.314	66	12		4	277		916	335	556	3.856	<b>9.398</b>
Other Amphibians		65	560	2		477		3				2.031	1.834	<b>4.972</b>
Zebra fish	1.145	19.854	35.035			6.522	8.454	5.310	2.807	7.459	4.685	3.670	9.055	<b>103.996</b>
Other Fish	3.520		1.958	2	10	147	2.871	1.431	574	1.736	3.119	35.957	559.116	<b>610.441</b>
<b>Total</b>	<b>102.626</b>	<b>170.649</b>	<b>343.152</b>	<b>65.072</b>	<b>51.766</b>	<b>24.327</b>	<b>360.292</b>	<b>30.290</b>	<b>38.593</b>	<b>65.682</b>	<b>82.446</b>	<b>59.419</b>	<b>717.875</b>	<b>2.112.189</b>
<b>%</b>	<b>4.86%</b>	<b>8.08%</b>	<b>16.25%</b>	<b>3.08%</b>	<b>2.45%</b>	<b>1.15%</b>	<b>17.06%</b>	<b>1.43%</b>	<b>1.83%</b>	<b>3.11%</b>	<b>3.90%</b>	<b>2.81%</b>	<b>33.99%</b>	<b>100%</b>

Table 11: Use of species in translational and applied research purposes

	Human Cancer	Human Infectious Disorders	Human Cardiovascular Disorders	Human Nervous and Mental Disorders	Human Respiratory Disorders	Human Gastrointestinal Disorders including Liver	Human Musculoskeletal Disorders	Human Immune Disorders	Human Urogenital/Reproductive Disorders	Human Sensory Organ Disorders (skin, eyes and ears)	Human Endocrine/Metabolism Disorders	Other Human Disorders	Animal Welfare	Diagnosis of diseases	Plant diseases	Non-regulatory toxicology and ecotoxicology	Total
Mice	112.029	28.005	14.326	42.449	14.495	3.988	5.403	18.352	3.680	2.956	9.728	3.463	743	5.865		3.393	<b>271.931</b>
Rats	1.266	242	7.351	17.761	6.800	1.209	2.566	990	850	466	8.603	1.906	14	133	20	2.227	<b>53.406</b>
Guinea-Pigs	26	262	75	6	1.559	53	186	60		147	20	84		6		160	<b>2.747</b>
Hamsters (Syrian)		434		54	82	3			13	1			18				<b>605</b>
Mongolian gerbil		621								46							<b>1.320</b>
Other Rodents		1.633															<b>1.689</b>
Rabbits	201	109	170				191			139	11	19		22		36	<b>1.174</b>
Cats																	<b>267</b>
Dogs	29		9	141	108				11		46	2		3		41	<b>1.022</b>
Ferrets		119															<b>131</b>
Horses, donkeys & cross-breeds							7	3									<b>74</b>
Pigs	174	67	376	19	220	213	28	3		1	162	164	429	29		6	<b>4.177</b>
Goats		4												2			<b>572</b>
Sheep	5	7	204	2	30		206				1			2			<b>767</b>

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Cattle			3										102	209			<b>1.057</b>
Cynomolgus monkey			45	6	12						3	11				13	<b>90</b>
Rhesus monkey		5															<b>5</b>
Vervets Chlorocebus spp.		5															<b>5</b>
Other species of Old World Monkeys (Cercopithecoidea)		3															<b>3</b>
Other Mammals		63							32				20				<b>129</b>
Domestic fowl		6					20						3.524	8			<b>5.757</b>
Other birds		10															<b>4.331</b>
Reptiles																	<b>24</b>
Rana																	<b>6</b>
Xenopus				36						12							<b>48</b>
Other Amphibians																	<b>245</b>
Zebra fish				515													<b>515</b>
Other Fish													26.869		5	2215	<b>74.869</b>
<b>Total</b>	<b>113.730</b>	<b>31.595</b>	<b>22.559</b>	<b>60.989</b>	<b>23.306</b>	<b>5.486</b>	<b>8.587</b>	<b>19.408</b>	<b>4.586</b>	<b>3.768</b>	<b>18.574</b>	<b>5.649</b>	<b>31.719</b>	<b>6.279</b>	<b>25</b>	<b>8.091</b>	<b>426.966</b>
<b>%</b>	<b>26.64%</b>	<b>7.40%</b>	<b>5.28%</b>	<b>14.28%</b>	<b>5.46%</b>	<b>1.28%</b>	<b>2.01%</b>	<b>4.55%</b>	<b>1.07%</b>	<b>0.88%</b>	<b>4.35%</b>	<b>1.32%</b>	<b>7.43%</b>	<b>1.47%</b>	<b>0.01%</b>	<b>1.89%</b>	<b>100%</b>

Table 12: Regulatory use of animals and routine production purposes

	Quality control (incl batch safety and potency testing)	Other efficacy and tolerance testing	Toxicity and other safety testing including pharmacology	Routine production	Total
Mice	118.641	53.053	99.778	4.404	<b>275.876</b>
Rats	76.934	5.445	103.651	745	<b>186.775</b>
Guinea-Pigs	11.808	189	4.475	217	<b>16.689</b>
Hamsters (Syrian)	378		421	78	<b>877</b>
Hamsters (Chinese)			10		<b>10</b>
Mongolian gerbil			1.499	274	<b>1.773</b>
Other Rodents			17.189		<b>17.189</b>
Rabbits	15.069	225	7.107	80.523	<b>102.294</b>
Cats	91	112	306	10	<b>519</b>
Dogs		434	2.742	2	<b>3.178</b>
Other carnivores	253	115			<b>368</b>
Horses, donkeys & cross-breeds		43	3	38	<b>84</b>
Pigs	708	2.820	906	54	<b>4.488</b>
Goats			2	25	<b>27</b>
Sheep	20		116	512	<b>648</b>
Cattle	47	143	345	98	<b>633</b>
Marmoset and tamarins			134		<b>134</b>
Cynomolgus monkey			2.104		<b>2.104</b>
Rhesus monkey			82		<b>82</b>
Other Mammals		27	3		<b>64</b>
Domestic fowl	2.600	10.773	145		<b>13.661</b>
Other birds		32	5.026		<b>5.129</b>
Reptiles			83	280	<b>363</b>
Rana			5		<b>5</b>
Xenopus			6		<b>6</b>
Other Amphibians			104		<b>104</b>
Zebra fish			19.959		<b>19.959</b>
Other Fish		200	11.759		<b>11.959</b>
Cephalopods					
<b>Total</b>	<b>226.908</b>	<b>73.611</b>	<b>277.301</b>	<b>87.508</b>	<b>665.528</b>
<b>%</b>	<b>34.40%</b>	<b>11.06%</b>	<b>41.75%</b>	<b>13.51%</b>	<b>100%</b>

**Table 13: Use of animals in quality control purposes**

	Batch safety testing	Pyrogenicity testing	Batch potency testing	Other quality controls	Total
Mice	21.295		97.346		118.861
Rats	657		76.277		76.934
Guinea-Pigs	3.147		8.652	9	11.808
Hamsters (Syrian)	8		370		378
Rabbits	108	7.259	7.702		15.069
Cats	91				91
Other carnivores	14		239		253
Pigs	343		323	42	708
Sheep				20	20
Cattle	32		15		47
Domestic fowl	2.259		341		2.600
<b>Total</b>	<b>27.954</b>	<b>7.259</b>	<b>191.265</b>	<b>71</b>	<b>226.549</b>
<b>%</b>	<b>12.34%</b>	<b>3.20%</b>	<b>84.43%</b>	<b>0.03%</b>	<b>100%</b>

**Table 14: Use of animals in routine production purposes**

	Blood based products	Monoclonal antibodies	Other product types	Total
Mice	425	1.370	2.609	4.404
Rats	14	331	400	745
Guinea-Pigs	210		7	217
Hamsters (Syrian)			78	78
Mongolian gerbil			274	274
Rabbits	79.347	15	1.161	80.523
Cats			10	10
Dogs			2	2
Horses, donkeys & cross-breeds	38			38
Pigs			54	54
Goats	25			25
Sheep	489		23	512
Cattle	73		25	98
Other Mammals	24		10	34
Domestic fowl	77		66	143
Other birds	31		40	71
Reptiles			280	280
<b>Total</b>	<b>80.753</b>	<b>1.716</b>	<b>5.039</b>	<b>87.508</b>
<b>%</b>	<b>92.28%</b>	<b>1.96%</b>	<b>5.76%</b>	<b>100%</b>





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Marmoset and tamarins				58						4	24					48	134
Cynomolgus monkey	2			1.242			62	13		451	82					252	2.104
Rhesus monkey				70						12							82
Other Mammals																3	3
Domestic fowl	48									12				85			145
Other birds	381												4.547			98	5.026
Reptiles													83				86
Rana																5	5
Xenopus													89				86
Other Amphibians																104	104
Zebra fish	21							2.020					17.818				19.859
Other Fish	2.961												8523	275			11.759
<b>Total</b>	<b>14.375</b>	<b>703</b>	<b>9.326</b>	<b>19.111</b>	<b>688</b>	<b>5.024</b>	<b>17.280</b>	<b>20.264</b>	<b>469</b>	<b>34.245</b>	<b>103.448</b>	<b>84</b>	<b>37.329</b>	<b>10.051</b>	<b>221</b>	<b>5.242</b>	<b>277.860</b>
<b>%</b>	<b>5.17%</b>	<b>0.25%</b>	<b>3.36%</b>	<b>6.88%</b>	<b>0.25%</b>	<b>1.81%</b>	<b>6.22%</b>	<b>7.29%</b>	<b>0.17%</b>	<b>12.32%</b>	<b>37.23%</b>	<b>0.03%</b>	<b>13.43%</b>	<b>3.62%</b>	<b>0.08%</b>	<b>1.89%</b>	<b>100%</b>

Table 16: Use of animals in repeated dose toxicity testing methods

	up to 28 days	29 - 90 days	> 90 days	Total
Mice	2.801	745	240	<b>3.786</b>
Rats	9.228	3.012	1.006	<b>13.246</b>
Guinea-Pigs	60			<b>60</b>
Rabbits	109			<b>109</b>
Dogs	444	270	120	<b>834</b>
Pigs	17		4	<b>21</b>
Marmoset and tamarins		54	4	<b>58</b>
Cynomolgus monkey	284	304	339	<b>927</b>
Rhesus monkey		70		<b>70</b>
<b>Total</b>	<b>12.943</b>	<b>4.455</b>	<b>1.713</b>	<b>19.111</b>
<b>%</b>	<b>67.73%</b>	<b>23.31%</b>	<b>8.96%</b>	<b>100%</b>

Table 17: Use of animals in acute and subacute toxicity testing methods

	LD50, LC50	Other lethal methods	Non lethal methods	Total
Mice	2.127	63	3.593	<b>5.783</b>
Rats	1981	489	2.692	<b>5.162</b>
Guinea-Pigs	20		46	<b>66</b>
Rabbits			56	<b>56</b>
Dogs			30	<b>30</b>
Cynomolgus monkey	2			<b>2</b>
Domestic fowl		48		<b>48</b>
Other birds	49		332	<b>381</b>
Zebra fish	21			<b>21</b>
Other Fish	2.961			<b>2.961</b>
<b>Total</b>	<b>7.161</b>	<b>600</b>	<b>6.749</b>	<b>14.510</b>
<b>%</b>	<b>49.35%</b>	<b>4.14%</b>	<b>46.51%</b>	<b>100%</b>

Table 18: Use of animals in ecotoxicity testing methods

	Acute toxicity	Chronic toxicity	Reproductive ecotoxicity	Endocrine activity	Bioaccumulation	Other ecotoxicity	Total
Mice						135	<b>135</b>
Other Rodents						6.217	<b>6.217</b>
Other birds	757		3.790				<b>4.547</b>
Reptiles	83						<b>86</b>
Xenopus	6						<b>6</b>
Zebra fish	2.021	5.075		9.550	732	440	<b>17.818</b>
Other Fish	3.925	2.323	96	1.152	991	36	<b>8.523</b>
<b>Total</b>	<b>6.792</b>	<b>7.398</b>	<b>3.886</b>	<b>10.702</b>	<b>1.723</b>	<b>6.826</b>	<b>37.329</b>
<b>%</b>	<b>21.93%</b>	<b>23.88%</b>	<b>12.54%</b>	<b>34.55%</b>	<b>5.56%</b>	<b>18.29%</b>	<b>100%</b>

## 5. Use of species and severity

Table 19: Use of species and severity in total

	Non-recovery	%	Mild [up to and including]	%	Moderate	%	Severe	%	Total
Mice	778.455	40,93%	692.919	36,43%	327.864	17,24%	102.747	5,40%	<b>1.901.985</b>
Rats	87.786	24,21%	198.745	54,82%	70.849	19,54%	5.150	1,42%	<b>362.530</b>
Guinea-Pigs	1.641	7,98%	11.100	53,95%	2.638	12,82%	5.197	25,26%	<b>20.576</b>
Hamsters (Syrian)	153	9,38%	1.133	69,42%	338	20,71%	8	0,49%	<b>1.632</b>
Hamsters (Chinese)	14	58,33%	10	41,67%					<b>24</b>
Mongolian gerbil	1.090	22,61%	2.585	53,63%	1.108	22,99%	37	0,77%	<b>4.820</b>
Other Rodents	819	3,55%	21.586	93,64%	646	2,80%			<b>23.051</b>
Rabbits	41.096	38,85%	62.998	59,55%	1.609	1,52%	81	0,08%	<b>105.784</b>
Cats	98	9,83%	718	72,02%	181	18,15%			<b>997</b>
Dogs	100	2,16%	3.832	82,66%	680	14,67%	24	0,52%	<b>4.636</b>
Ferrets	10	6,29%	60	37,74%	89	55,97%			<b>159</b>
Other carnivores	51	12,32%	202	48,79%	161	38,89%			<b>414</b>
Horses, donkeys & cross-breeds	66	8,45%	706	90,40%	9	1,15%			<b>781</b>
Pigs	4.163	28,96%	8.102	56,37%	1.704	11,85%	405	2,82%	<b>14.374</b>
Goats	49	6,54%	680	90,79%	20	2,67%			<b>749</b>
Sheep	200	10,33%	1.142	58,96%	563	29,07%	32	1,65%	<b>1.937</b>
Cattle	10	0,23%	4.083	92,63%	307	6,96%	8	0,18%	<b>4.408</b>
Prosimians			148	100,00%					<b>148</b>

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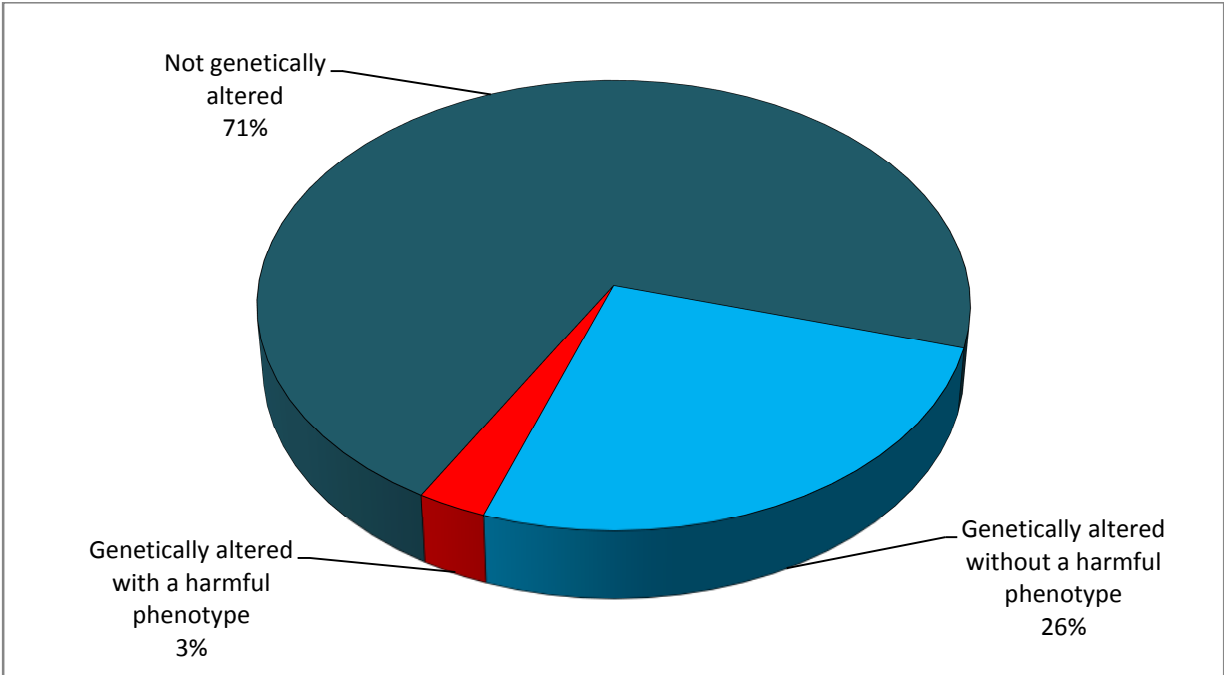
Marmoset and tamarins	35	10,77%	272	83,69%	18	5,54%			<b>325</b>
Cynomolgus monkey	12	0,54%	1.713	76,78%	485	21,74%	21	0,94%	<b>2.231</b>
Rhesus monkey			99	77,34%	29	22,66%			<b>128</b>
Vervets Chlorocebus spp.			5	100,00%					<b>5</b>
Baboons							2	100,00%	<b>2</b>
Other species of Old World Monkeys			3	100,00%					<b>3</b>
Other Mammals	162	9,60%	1.382	81,87%	140	8,29%	4	0,24%	<b>1.688</b>
Domestic fowl	15.382	43,95%	14.731	42,09%	2.257	6,45%	2.632	7,52%	<b>35.002</b>
Other birds	1.448	7,00%	17.767	85,85%	1.420	6,86%	60	0,29%	<b>20.695</b>
Reptiles	137	13,43%	656	64,31%	227	22,25%			<b>1.020</b>
Rana	19	61,29%	12	38,71%					<b>31</b>
Xenopus	4.471	44,81%	5.337	53,49%	169	1,69%			<b>9.977</b>
Other Amphibians	1.128	21,03%	4.037	75,28%	198	3,69%			<b>5.363</b>
Zebra fish	47.833	37,72%	66.533	52,47%	9.894	7,80%	2.538	2,00%	<b>126.798</b>
Other Fish	22.179	3,13%	678.355	95,58%	2.921	0,41%	6.272	0,88%	<b>709.727</b>
Cephalopods	45	71,43%	18	28,57%					<b>63</b>
<b>Total</b>	<b>1.008.652</b>	<b>30,00%</b>	<b>1.801.669</b>	<b>53,59%</b>	<b>426.524</b>	<b>12,69%</b>	<b>125.218</b>	<b>3,72%</b>	<b>3.362.063</b>

## 6. Use of species and genetic status

Table 20: Use of species and genetic status in total

	Not genetically altered	Genetically altered without a harmful phenotype	Genetically altered with a harmful phenotype	Total
Mice	1.012.965	798.135	90.885	<b>1.901.985</b>
Rats	351.266	7.445	3.819	<b>362.530</b>
Guinea-Pigs	20.575	1		<b>20.576</b>
Hamsters (Syrian)	1.532			<b>1.532</b>
Hamsters (Chinese)	24			<b>24</b>
Mongolian gerbil	4.820			<b>4.820</b>
Other Rodents	23.051			<b>23.051</b>
Rabbits	105.784			<b>105.784</b>
Cats	997			<b>997</b>
Dogs	4.636			<b>4.636</b>
Ferrets	159			<b>159</b>
Other carnivores	414			<b>414</b>
Horses, donkeys & cross-breeds	781			<b>781</b>
Pigs	14.060	110	204	<b>14.374</b>
Goats	749			<b>749</b>
Sheep	1.937			<b>1.937</b>
Cattle	4.406			<b>4.406</b>
Prosimians	148			<b>148</b>
Marmoset and tamarins	325			<b>325</b>
Cynomolgus monkey	2.231			<b>2.231</b>
Rhesus monkey	128			<b>128</b>
Vervets Chlorocebus spp.	5			<b>5</b>
Baboons	2			<b>2</b>
Other species of Old World Monkeys (Cercopithecoidea)	3			<b>3</b>
Other Mammals	1.688			<b>1.688</b>
Domestic fowl	35.002			<b>35.002</b>
Other birds	20.695			<b>20.695</b>
Reptiles	1.020			<b>1.020</b>
Rana	31			<b>31</b>
Xenopus	9.977			<b>9.977</b>
Other Amphibians	5.363			<b>5.363</b>
Zebra fish	58.975	66.322	1.501	<b>126.798</b>
Other Fish	706.781	2.404	542	<b>709.727</b>
Cephalopods	63			<b>63</b>
<b>Total</b>	<b>2.390.695</b>	<b>874.417</b>	<b>96.951</b>	<b>3.362.063</b>

Figure 4: Use of animals: genetic status



## 7. Use of Species and re-use

Table 21: Use of species and re-use in total

	(Naive) First use	Re-uses	Total
Mice	1.877.552	24.433	1.901.985
Rats	357.124	5.406	362.530
Guinea-Pigs	20.037	539	20.576
Hamsters (Syrian)	1.628	4	1.632
Hamsters (Chinese)	24		24
Mongolian gerbil	3.960	860	4.820
Other Rodents	22.881	170	23.051
Rabbits	102.523	3.261	105.784
Cats	581	416	997
Dogs	2.202	2.434	4.636
Ferrets	141	18	159
Other carnivores	414		414
Horses, donkeys & cross-breeds	635	146	781
Pigs	13.768	606	14.374
Goats	724	25	749
Sheep	1.373	564	1.937
Cattle	3.817	591	4.408
Prosimians	85	63	148
Marmoset and tamarins	234	91	325
Cynomolgus monkey	1.475	756	2.231
Rhesus monkey	111	17	128
Vervets Chlorocebus spp.		5	5
Baboons	2		2
Other species of Old World Monkeys		3	3
Other Mammals	1.607	81	1.688
Domestic fowl	34.806	196	35.002
Other birds	20.503	192	20.695
Reptiles	707	313	1.020
Rana	31		31
Xenopus	7.929	2.048	9.977
Other Amphibians	5.363		5363
Zebra fish	123.336	3.462	126.798
Other Fish	708.462	1.265	709.727
Cephalopods	63		63
<b>Total</b>	<b>3.314.098</b>	<b>47.965</b>	<b>3.362.063</b>



Figure 5: Use of species groups and re-use

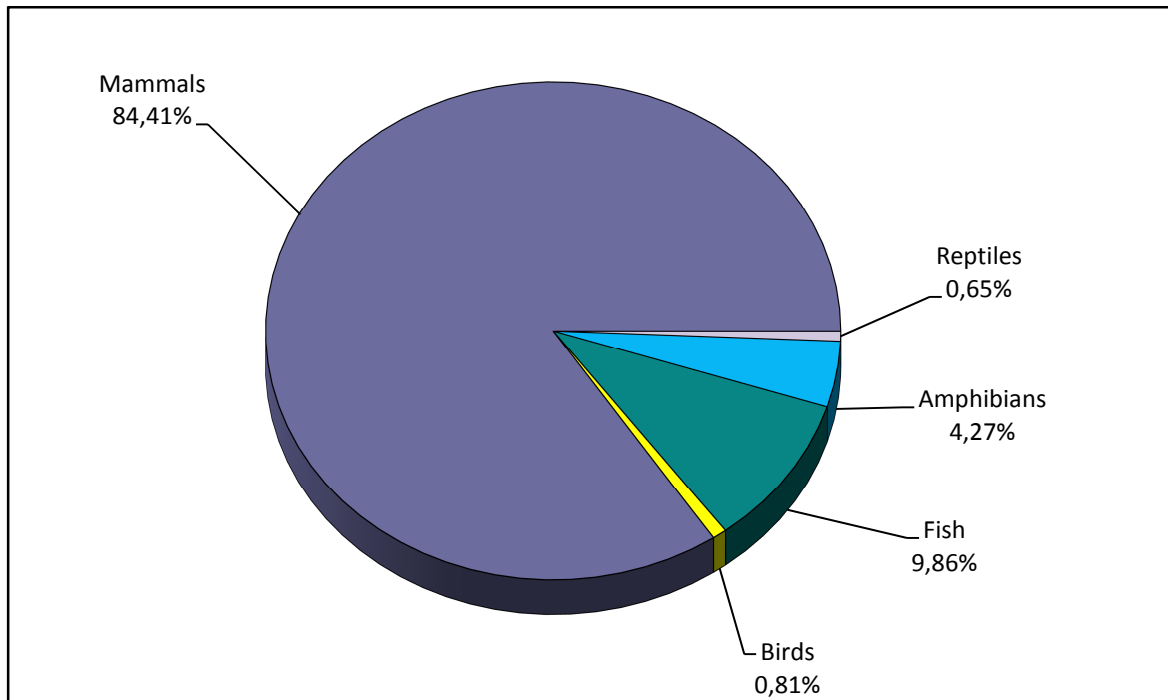
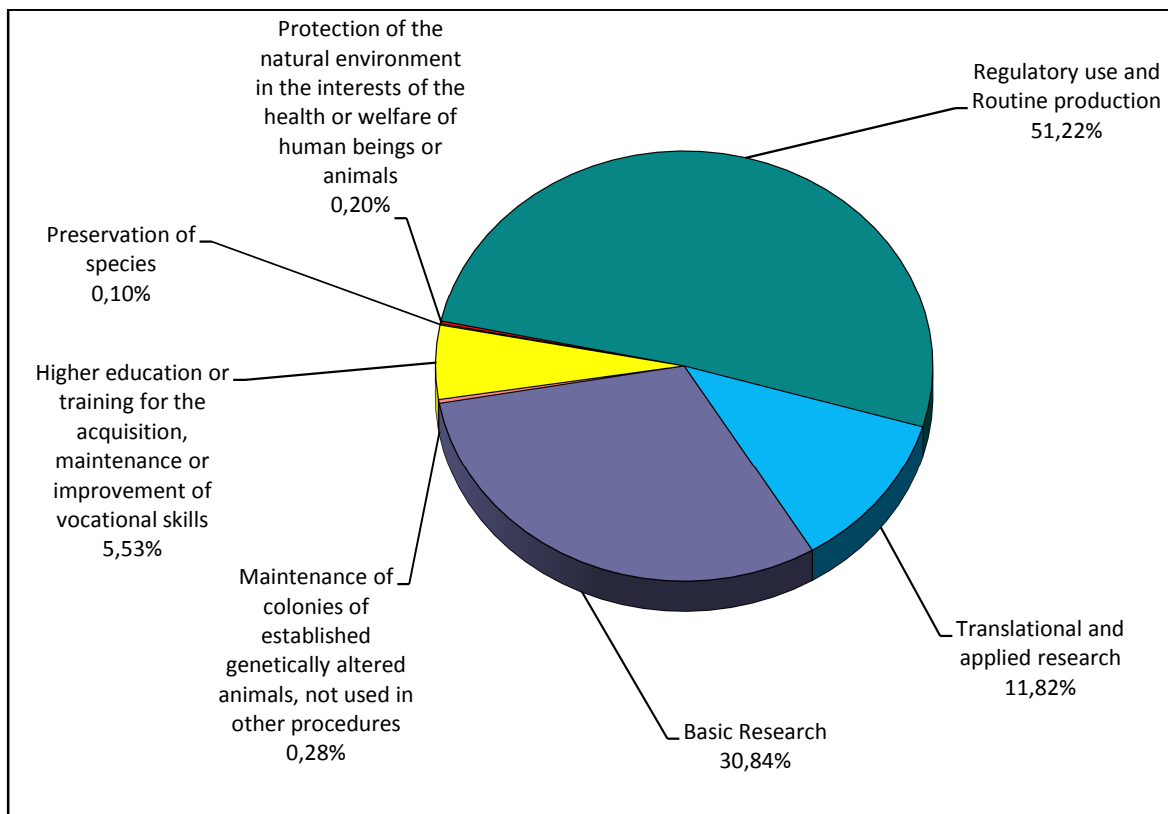


Figure 6: Primary purpose and re-use



## 8. Purposes and severity

Table 22: Purpose and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Basic Research	798.727	1.090.145	204.062	19.255	<b>2.112.189</b>
Translational and applied research	78.747	241.547	94.851	11.821	<b>426.966</b>
Regulatory use and Routine production	58.204	405.350	109.363	92.611	<b>665.528</b>
Protection of the natural environment in the interests of the health or welfare of human beings or animals	394	5.522	712	350	<b>6.978</b>
Preservation of species	3.127	7.504	385	600	<b>11.616</b>
Higher education or training for the acquisition, maintenance or improvement of vocational skills	18.702	26.278	10.994	260	<b>56.234</b>
Forensic enquiries	31				<b>31</b>
Maintenance of colonies of established genetically altered animals, not used in other procedures	50.720	25.323	6.157	321	<b>82.521</b>
<b>Total</b>	<b>1.008.652</b>	<b>1.801.669</b>	<b>426.524</b>	<b>125.218</b>	<b>3.362.063</b>
<b>%</b>	<b>30.00%</b>	<b>53.59%</b>	<b>12.69%</b>	<b>3.72%</b>	<b>100%</b>

Table 23: Basic research purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Oncology	33.039	38.866	27.356	3.365	<b>102.626</b>
Cardiovascular Blood and Lymphatic System	111.272	39.394	18.736	1.247	<b>170.649</b>
Nervous System	202.075	83.195	54.613	3.269	<b>343.152</b>
Respiratory System	46.459	12.350	5.971	292	<b>65.072</b>
Gastrointestinal System including Liver	29.715	12.297	9.237	517	<b>51.766</b>
Musculoskeletal System	12.611	8.344	3.283	89	<b>24.327</b>
Immune System	146.786	149.073	56.484	7.947	<b>360.292</b>
Urogenital/ Reproductive System	16.823	10.204	2.859	404	<b>30.290</b>
Sensory Organs (skin, eyes and ears)	26.719	9.568	2.179	127	<b>38.593</b>
Endocrine System/ Metabolism	28.736	30.049	6.892	5	<b>65.682</b>
Multisystemic	52.755	25.538	3.308	845	<b>82.446</b>
Ethology / Animal Behaviour / Animal Biology	6.316	49.835	3.111	157	<b>59.419</b>
Other basic research	85.421	621.432	10.033	989	<b>717.875</b>
<b>Total</b>	<b>798.727</b>	<b>1.101.134</b>	<b>204.062</b>	<b>19.253</b>	<b>2.112.189</b>
<b>%</b>	<b>37.82%</b>	<b>52.13%</b>	<b>9.66%</b>	<b>0.91%</b>	<b>100%</b>

Table 24: Basic research: species and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe
Mice	652.237	392.277	171.966	16.920
Rats	63.079	17.591	24.697	2.155
Guinea-Pigs	418	234	121	
Hamsters (Syrian)	29	38		
Hamsters (Chinese)	12			
Mongolian gerbil	805	291	402	
Other Rodents	461	2.664	606	
Rabbits	573	534	231	11
Cats	7	133	12	
Dogs	8	309		
Ferrets	10	7	3	
Horses, donkeys & cross-breeds	20	547	2	
Pigs	1.263	1.438	508	4
Goats		72	1	
Sheep	60	118	121	9
Cattle	4	2.283	73	
Prosimians		148		
Marmoset and tamarins	34	143	12	
Cynomolgus monkey		6	21	
Rhesus monkey		10	29	
Baboons				2
Other Mammals	110	1.074	140	
Domestic fowl	10.919	2.907	1.008	
Other birds	925	8.944	1.054	54
Reptiles	137	179	144	
Rana	2	7		
Xenopus	3.972	5.275	151	
Other Amphibians	842	3.932	198	
Zebra fish	44.021	58.741	1.234	
Other Fish	18.779	590.234	1.328	100
<b>Total</b>	<b>798.727</b>	<b>1.090.145</b>	<b>204.062</b>	<b>19.255</b>

Table 25: Translational and applied research: purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Human Cancer	12.608	58.979	41.429	714	<b>113.730</b>
Human Infectious Disorders	5.459	17.207	6.783	2.146	<b>31.595</b>
Human Cardiovascular Disorders	8.043	8.522	4.330	1.664	<b>22.559</b>
Human Nervous and Mental Disorders	16.173	29.927	14.235	654	<b>60.989</b>
Human Respiratory Disorders	3.808	11.208	7.107	1.183	<b>23.306</b>
Human Gastrointestinal Disorders including Liver	1.965	1.512	1.535	474	<b>5.486</b>
Human Musculoskeletal Disorders	4.446	1.532	2.478	131	<b>8.587</b>
Human Immune Disorders	9.359	5.364	4.552	133	<b>19.408</b>
Human Urogenital/Reproductive Disorders	1.478	1.392	868	848	<b>4.586</b>
Human Sensory Organ Disorders (skin, eyes and ears)	1.337	1.608	822	1	<b>3.768</b>
Human Endocrine/Metabolism Disorders	3.650	12.343	2.560	21	<b>18.574</b>
Other Human Disorders	1.335	2.731	1.532	51	<b>5.649</b>
Animal Diseases and Disorders	1.523	57.245	3.248	599	<b>62.615</b>
Animal Welfare	3.481	27.612	56	570	<b>31.719</b>
Diagnosis of diseases	2.039	590	1.030	2.620	<b>6.279</b>
Plant diseases	25				<b>25</b>
Non-regulatory toxicology and ecotoxicology	2.018	3.775	2.286	12	<b>8.091</b>
<b>Total</b>	<b>78.747</b>	<b>241.547</b>	<b>94.851</b>	<b>11.821</b>	<b>426.966</b>
<b>%</b>	<b>18.44%</b>	<b>56.57%</b>	<b>22.22%</b>	<b>2.77%</b>	<b>100%</b>

**Table 26: Translational and applied research: species and severity**

	Non-recovery	Mild [up to and including]	Moderate	Severe
Mice	59.734	122.800	79.439	9.958
Rats	12.525	28.733	11.289	859
Guinea-Pigs	348	1.184	1.049	166
Hamsters (Syrian)	4	488	113	
Mongolian gerbil		1.087	207	26
Other Rodents	59	1.590	40	
Rabbits	205	595	347	27
Cats		185	82	
Dogs	1	912	108	1
Ferrets		45	86	
Horses, donkeys & cross-breeds	12	55	7	
Pigs	511	2.801	498	367
Goats		562	10	
Sheep	87	402	256	22
Cattle	6	956	87	8
Cynomolgus monkey	8	81	1	
Other Mammals	32	97		
Domestic fowl	3.534	983	1.103	137
Other birds	380	3.942	9	
Reptiles		24		
Rana	6			
Xenopus		36	12	
Other Amphibians	245			
Zebra fish	170	345		
Other Fish	880	73.631	108	250
<b>Total</b>	<b>78.747</b>	<b>241.547</b>	<b>94.851</b>	<b>11.821</b>

**Table 27: Regulatory use/routine production purposes and severity**

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Routine production	39.742	44.868	2.869	29	<b>87.508</b>
Quality control (incl batch safety and potency testing)	587	149.461	2.294	74.566	<b>226.549</b>
Other efficacy and tolerance testing	3.428	33.789	34.676	1.718	<b>73.611</b>
Toxicity and other safety testing including pharmacology	14.447	177.591	69.524	16.298	<b>277.860</b>
<b>Total</b>	<b>58.204</b>	<b>405.350</b>	<b>109.363</b>	<b>92.611</b>	<b>665.528</b>
<b>%</b>	<b>8.75%</b>	<b>60.91%</b>	<b>16.43%</b>	<b>13.92%</b>	<b>100%</b>

**Table 28: Regulatory use/routine production: species and severity**

	Non-recovery	Mild [up to and including]	Moderate	Severe
Mice	5.298	132.789	62.477	75.312
Rats	7.034	145.692	31.937	2.112
Guinea-Pigs	807	9.479	1.372	5.031
Hamsters (Syrian)	80	564	225	8
Hamsters (Chinese)		10		
Mongolian gerbil	134	1.130	498	11
Other Rodents	290	16.899		
Rabbits	40.226	61.684	971	43
Cats	91	341	87	
Dogs	91	2.492	572	23
Other carnivores	36	171	161	
Horses, donkeys & cross-breeds	12	72		
Pigs	933	2.880	641	34
Goats		25	2	
Sheep		503	144	1
Cattle		486	147	
Marmoset and tamarins	1	127	6	
Cynomolgus monkey	4	1.623	456	21
Rhesus monkey		82		
Other Mammals		60		4
Domestic fowl	281	10.739	146	2.495
Other birds	32	4.744	347	6
Reptiles		280	83	
Rana		5		
Xenopus			6	
Other Amphibians		104		
Zebra fish	2.490	6.177	8.654	2.538
Other Fish	364	6.192	431	4.972
<b>Total</b>	<b>58.204</b>	<b>405.350</b>	<b>109.363</b>	<b>92.611</b>

Table 29: Quality control purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Batch safety testing	428	24.760	310	2.456	27.954
Pyrogenicity testing		7.055	204		7.259
Batch potency testing	159	117.243	1.762	72.101	191.265
Other quality controls		44	18	9	71
<b>Total</b>	<b>587</b>	<b>149.102</b>	<b>2.294</b>	<b>74.566</b>	<b>226.549</b>
<b>%</b>	<b>0.26%</b>	<b>65.81%</b>	<b>1.01%</b>	<b>32.91%</b>	<b>100%</b>

Table 30: Routine production purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Blood based products	38.869	41.699	168	17	80.753
Monoclonal antibodies	621	1.027	68		1.716
Other product types	252	2.142	2.633	12	5.039
<b>Total</b>	<b>39.742</b>	<b>44.868</b>	<b>2.869</b>	<b>29</b>	<b>87.508</b>
<b>%</b>	<b>45.42%</b>	<b>51.27%</b>	<b>3.28%</b>	<b>0.03%</b>	<b>100%</b>

Table 31: Toxicity and other safer testing by test type purposes and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Acute and sub-acute	1	6.714	3.351	5.309	14.375
Skin irritation/corrosion		661	42		703
Skin sensitisation		8.574	745	7	9.326
Eye irritation/corrosion		73	148		221
Repeated dose toxicity	41	11.769	6.929	372	19.111
Carcinogenicity		472	206	10	688
Genotoxicity	22	4.725	194	83	5.024
Reproductive toxicity	54	15.565	1.627	34	17.280
Developmental toxicity		17.969	255	2.040	20.264
Neurotoxicity		401	68		469
Kinetics	1.454	26.258	6.187	346	34.245
Pharmaco-dynamics (incl safety pharmacology)	7.775	48.528	41.559	5.586	103.448
Phototoxicity		6.217	84		84
Ecotoxicity	2.989	22.763	9.066	2.511	37.329
Target animal safety	85	9.937	29		10.051
Other toxicity/safety testing	2.026	3.182	34		5.242
<b>Total</b>	<b>14.447</b>	<b>177.591</b>	<b>69.524</b>	<b>16.298</b>	<b>277.860</b>
<b>%</b>	<b>5.20%</b>	<b>63.91%</b>	<b>25.02%</b>	<b>5.87%</b>	<b>100%</b>

Table 32: Repeated dose toxicity testing methods and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
up to 28 days	41	8.125	4.449	328	<b>12.943</b>
29 - 90 days		2.681	1.733	41	<b>4.455</b>
> 90 days		963	747	3	<b>1.713</b>
<b>Total</b>	<b>41</b>	<b>11.769</b>	<b>6.929</b>	<b>372</b>	<b>19.111</b>
<b>%</b>	<b>0.21%</b>	<b>61.58%</b>	<b>36.26%</b>	<b>1.95%</b>	<b>100%</b>

Table 33: Acute and subacute toxicity testing methods and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
LD50, LC50		911	1270	4.980	<b>7.161</b>
Other lethal methods		369		231	<b>600</b>
Non lethal methods	1	5434	1.081	98	<b>6.614</b>
<b>Total</b>	<b>1</b>	<b>6.714</b>	<b>2.351</b>	<b>5.309</b>	<b>14.375</b>
<b>%</b>	<b>0.01%</b>	<b>46.27%</b>	<b>16.35%</b>	<b>36.93%</b>	<b>100%</b>

Table 34: Ecotoxicity testing methods and severity

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total
Acute toxicity	854	3.536	381	2.021	<b>6.792</b>
Chronic toxicity	1.460	5.384	84	470	<b>7.398</b>
Reproductive ecotoxicity		3.886			<b>3.886</b>
Endocrine activity		2.206	8.496		<b>10.702</b>
Bioaccumulation	100	1.498	105	20	<b>1.723</b>
Other ecotoxicity	575	6.253			<b>6.828</b>
<b>Total</b>	<b>2.989</b>	<b>22.763</b>	<b>9.066</b>	<b>2.511</b>	<b>37.329</b>
<b>%</b>	<b>8.01%</b>	<b>60.98%</b>	<b>24.29%</b>	<b>6.73%</b>	<b>100%</b>



## 9. Purposes and testing by type of legislation

Table 35: Regulatory use and routine production purposes: type of legislation

	Quality control (incl batch safety and potency testing)	Other efficacy and tolerance testing	Toxicity and other safety testing includ- ing pharma- cology	Routine pro- duction	Total	%
Legislation on medicinal prod- ucts for human use	203.652	57.134	167.288	38.755	<b>466.829</b>	<b>70.14%</b>
Legislation on medicinal prod- ucts for veterinary use and their resi- dues	20.667	12.377	9.277	86	<b>42.407</b>	<b>6.37%</b>
Medical devices legislation	1.722	245	8.345	43.716	<b>54.028</b>	<b>8.12%</b>
Industrial chemi- cals legislation			35.293		<b>35.293</b>	<b>5.30%</b>
Plant protection product legislation			54.713	478	<b>55.191</b>	<b>8.29%</b>
Biocides legislati- on		553	166	141	<b>860</b>	<b>0.13%</b>
Food legislation including food contact material			48	16	<b>64</b>	<b>0.01%</b>
Feed legislation including legisla- tion for the safety of target animals, workers and envi- ronment	20	2.465	281		<b>2.766</b>	<b>0.42%</b>
Other legislation	488	837	2.449	4.316	<b>8.090</b>	<b>1.22%</b>
<b>Total</b>	<b>226.549</b>	<b>73.611</b>	<b>277.860</b>	<b>87.508</b>	<b>665.528</b>	<b>100%</b>

Table 36: Quality control purposes: type of legislation

	Batch potency testing	Batch safety testing	Other quality controls	Pyrogenicity testing	Total
Legislation on medicinal products for human use	175.824	22.561	9	5.258	<b>203.652</b>
Legislation on medicinal products for veterinary use and their residues	15.441	4.917		309	<b>20.667</b>
Medical devices legislation			30	1.692	<b>1.722</b>
Plant protection product legislation					
Feed legislation including legislation for the safety of target animals, workers and environment			20		<b>20</b>
Other legislation		476	12		<b>488</b>
<b>Total</b>	<b>191.265</b>	<b>27.954</b>	<b>71</b>	<b>7.259</b>	<b>226.549</b>

Table 37: Routine production purposes: type of legislation

	Blood based products	Monoclonal antibodies	Other product types	Total
Legislation on medicinal products for human use	38.475		280	<b>38.755</b>
Legislation on medicinal products for veterinary use and their residues		3	83	<b>86</b>
Medical devices legislation	40.880	110	2.726	<b>43.716</b>
Plant protection product legislation			478	<b>478</b>
Biocides legislation			141	<b>141</b>
Food legislation including food contact material	16			<b>16</b>
Other legislation	1.382	1.603	1.331	<b>4.316</b>
<b>Total</b>	<b>80.753</b>	<b>1.716</b>	<b>5.039</b>	<b>87.508</b>

Table 38: Toxicity and other safety testing by test type purposes: type of legislation

	Legislation on medicinal products for human use	Legislation on medicinal products for veterinary use and their residues	Medical devices legislation	Industrial chemicals legislation	Plant protection product legislation	Biocides legislation	Food legislation including food contact material	Feed legislation including legislation for the safety of target animals, workers and environment	Other legislation	Total
Acute and sub-acute	2.262	1.911	3.175	2.741	3.954		48		284	14.375
Skin irritation/corrosion			462	205	36					703
Skin sensitisation	383	6	3.859	4.588	480				10	9.326
Eye irritation/corrosion	1		30	151	39					221
Repeated dose toxicity	13.806	173	111	2.489	2.532					19.111
Carcinogenicity	93		195		400					688
Genotoxicity	1.485		365	1.522	1.632				20	5.024
Reproductive toxicity	2.413	684		8.843	5.340					17.280
Developmental toxicity	268	560		9.729	9.707					20.264
Neurotoxicity	126			95	248					469
Kinetics	31.453	2.123		8	661					34.245
Pharmaco-dynamics (incl safety pharmacology)	101.924	1.395							129	103.448
Phototoxicity	84									84
Ecotoxicity	10.608	2.200		4.922	18.450	166		196	787	37.329
Target animal safety		201			9.510			85	255	10.051
Other toxicity/safety testing	2.382	24	148		1.724				964	5.242
<b>Total</b>	<b>168.288</b>	<b>9.277</b>	<b>8.345</b>	<b>35.293</b>	<b>54.713</b>	<b>166</b>	<b>48</b>	<b>281</b>	<b>2.449</b>	<b>277.860</b>

**Table 39: Repeated dose toxicity purposes: type of legislation**

	up to 28 days	29 - 90 days	> 90 days	Total
Legislation on medicinal products for human use	9.106	3.124	1.576	<b>13.806</b>
Legislation on medicinal products for veterinary use and their residues	173			<b>173</b>
Medical devices legislation	54	57		<b>111</b>
Industrial chemicals legislation	1.668	724	97	<b>2.489</b>
Plant protection product legislation	1.942	550	40	<b>2.532</b>
<b>Total</b>	<b>12.943</b>	<b>4.455</b>	<b>1.713</b>	<b>19.111</b>

**Table 40: Acute and subacute toxicity testing methods: type of legislation**

	LD50, LC50	Other lethal methods	Non lethal methods	Total
Legislation on medicinal products for human use	193	15	2.054	<b>2.262</b>
Legislation on medicinal products for veterinary use and their residues	1.843	48	20	<b>1.911</b>
Medical devices legislation			3.175	<b>3.175</b>
Industrial chemicals legislation	1.878		863	<b>2.741</b>
Plant protection product legislation	3.055	489	410	<b>3.954</b>
Food legislation including food contact material		48		<b>48</b>
Other legislation	192		92	<b>284</b>
<b>Total</b>	<b>7.161</b>	<b>600</b>	<b>6.614</b>	<b>14.375</b>

Table 41: Ecotoxicity purposes: type of legislation

	Acute toxicity	Chronic toxicity	Reproductive ecotoxicity	Endocrine activity	Bioaccumulation	Other ecotoxicity	Total
Legislation on medicinal products for human use	72	1.829		8.400	172	135	<b>10.473</b>
Legislation on medicinal products for veterinary use and their residues	110	1.610			480		<b>2.200</b>
Industrial chemicals legislation	1.274	1.819	509	800	80	440	<b>4.922</b>
Plant protection product legislation	4.218	2.140	3.377	1.502	971	6.242	<b>18.450</b>
Biocides legislation	166						<b>166</b>
Feed legislation including legislation for the safety of target animals, workers and environment	196						<b>196</b>
Other legislation	756				20	11	<b>787</b>
<b>Total</b>	<b>6.792</b>	<b>7.398</b>	<b>3.886</b>	<b>10.702</b>	<b>1.723</b>	<b>6.828</b>	<b>37.329</b>

## 10. Purposes and origin of legislative requirement

Table 42: Regulatory use and routine production: origin of legislative requirement

	Quality control (incl batch safety and potency test- ing)	Other efficacy and tolerance testing	Toxicity and other safety testing including phar- macology	Routine production	Total
Legislation satisfying EU requirements	212.912	54.447	276.399	85.979	629.737
Legislation satisfying na- tional re- quirements only [within EU]	75	19.138	1.180	1.529	21.922
Legislation satisfying Non- EU require- ments only	13.562	26	281		13.869
<b>Total</b>	<b>226.549</b>	<b>73.611</b>	<b>277.860</b>	<b>87.508</b>	<b>665.528</b>

Table 43: Toxicity and other safety testing: origin of legislative requirement

	Legislation satisfying EU requirements	Legislation satisfying national requirements only [within EU]	Legislation satisfying Non-EU requirements only	Total
Acute and sub-acute	14.219	150	6	14.375
Skin irritation/corrosion	703			703
Skin sensitisation	9.316	10		9.326
Eye irritation/corrosion	219		2	221
Repeated dose toxicity	19.111			19.111
Carcinogenicity	688			688
Genotoxicity	5.024			5.024
Reproductive toxicity	17.280			17.280
Developmental toxicity	20.264			20.264
Neurotoxicity	469			469
Kinetics	34.220	25		34.245
Pharmaco-dynamics (incl safety pharmacol- ogy)	103.448			103.448
Phototoxicity	84			84
Ecotoxicity	36.346	710	273	37.326
Target animal safety	9.776	275		10.051
Other toxicity/safety testing	5.232	10		5.242
<b>Total</b>	<b>276.399</b>	<b>1.180</b>	<b>281</b>	<b>277.860</b>

Table 44: Repeated dose toxicity: origin of legislative requirement

	up to 28 days	29 - 90 days	> 90 days	Total
Legislation satisfying EU requirements	12.943	4.455	1.713	<b>19.111</b>
Legislation satisfying national requirements only [within EU]				
Legislation satisfying Non-EU requirements only				
<b>Total</b>	<b>12.943</b>	<b>4.455</b>	<b>1.713</b>	<b>19.111</b>

Table 45: Acute and subacute toxicity testing: origin of legislative requirement

	LD50, LC50	Other lethal methods	Non lethal methods	Total
Legislation satisfying EU requirements	7.161	552	6.506	<b>14.219</b>
Legislation satisfying national requirements only [within EU]		48	102	<b>150</b>
Legislation satisfying Non-EU requirements only			6	<b>6</b>
<b>Total</b>	<b>7.161</b>	<b>600</b>	<b>6.614</b>	<b>14.375</b>

Table 46: Ecotoxicity testing: origin of legislative requirement

	Acute toxicity	Chronic toxicity	Endocrine activity	Bioaccumulation	Other ecotoxicity	Total
Legislation satisfying EU requirements	5.840	7.398	10.702	1.703	6.817	<b>32.460</b>
Legislation satisfying national requirements only [within EU]	679			20	11	<b>710</b>
Legislation satisfying Non-EU requirements only	273					<b>273</b>
<b>Total</b>	<b>6.792</b>	<b>7.398</b>	<b>10.702</b>	<b>1.723</b>	<b>6.828</b>	<b>33.443</b>

Table 47: Animals used under § 7 (2) and § 4 (3) of the Animal Protection Act by species

	Animals used under § 7 (2) Animal Protection Act	Animals used under § 4 (3) Animal Protection Act	Total
Mice	1.263.519	638.466	<b>1.901.985</b>
Rats	296.662	65.868	<b>362.530</b>
Guinea-Pigs	19.612	964	<b>20.576</b>
Hamsters (Syrian)	1.521	111	<b>1.632</b>
Hamsters (Chinese)	24		<b>24</b>
Mongolian gerbil	4.187	633	<b>4.820</b>
Other Rodents	22.525	526	<b>23.051</b>
Rabbits	105.336	448	<b>105.784</b>
Cats	997		<b>997</b>
Dogs	4.627	9	<b>4.636</b>
Ferrets	155	4	<b>159</b>
Other carnivores	414		<b>414</b>
Horses, donkeys & cross-breeds	732	49	<b>781</b>
Pigs	13.070	1.304	<b>14.374</b>
Goats	700	49	<b>749</b>
Sheep	1.899	38	<b>1.937</b>
Cattle	4.398	10	<b>4.408</b>
Prosimians	148		<b>148</b>
Marmoset and tamarins	318	7	<b>325</b>
Cynomolgus monkey	2.219	12	<b>2.231</b>
Rhesus monkey	128		<b>128</b>
Vervets Chlorocebus spp.	5		<b>5</b>
Baboons	2		<b>2</b>
Other species of Old World Monkeys (Cercopithecoidea)	3		<b>3</b>
Other Mammals	1.572	116	<b>1.688</b>
Domestic fowl	20.463	14.539	<b>35.002</b>
Other birds	19.969	726	<b>20.695</b>
Reptiles	883	137	<b>1.020</b>
Rana	12	19	<b>31</b>
Xenopus	5.918	4.059	<b>9.977</b>
Other Amphibians	4.263	1.100	<b>5.363</b>
Zebra fish	87.789	39.009	<b>126.798</b>
Other Fish	688.022	21.705	<b>709.727</b>
Cephalopods	45	18	<b>63</b>
<b>Total</b>	<b>2.572.137</b>	<b>789.926</b>	<b>3.362.063</b>



**Table 48: Animals used under § 7 (2) and § 4 (3) of the Animal Protection Act by purpose**

	Animals used under § 7 (2)	%	Animals used under § 4 (3)	%	Total	
Basic Research	1.408.358	54.57%	703.831	89.10%	<b>2.112.189</b>	<b>62.82%</b>
Translational and applied research	357.180	13.89%	69.786	8.83%	<b>426.966</b>	<b>12.70%</b>
Regulatory use and Routine production	663.274	25.79%	2.254	0.29%	<b>665.528</b>	<b>19.80%</b>
Protection of the natural environment in the interests of the health or welfare of human beings or animals	6.958	0.27%	20	0.01%	<b>6.978</b>	<b>0.21%</b>
Preservation of species	8.861	0.34%	2.755	0.34%	<b>11.616</b>	<b>0.35%</b>
Higher education or training for the acquisition, maintenance or improvement of vocational skills	50.288	1.96%	5.946	0.74%	<b>56.234</b>	<b>1.66%</b>
Forensic enquiries			31	0.01%	<b>31</b>	<b>0.01%</b>
Maintenance of colonies of established genetically altered animals, not used in other procedures	77.218	3.00%	5.303	0.68%	<b>82.521</b>	<b>2.45%</b>
<b>Total</b>	<b>2.572.137</b>	<b>100%</b>	<b>789.926</b>	<b>100%</b>	<b>3.362.63</b>	<b>100%</b>

**Table 49: Animals used under § 7 (2) and § 4 (3) of the Animal Protection Act by genetic status**

	Animals used under § 7 (2) Animal Protection Act	Animals used under § 4 (3) Animal Protection Act	Total	
Not genetically altered	1.407.557 <sup>4</sup>	419.538	<b>1.827.095</b>	<b>65%</b>
Genetically altered without a harmful phenotype	537.581	336.836	<b>874.417</b>	<b>31%</b>
Genetically altered with a harmful phenotype	63.399	33.552	<b>96.951</b>	<b>3%</b>
<b>Total</b>	<b>2.008.537</b>	<b>789.926</b>	<b>2.798.463</b>	<b>100%</b>

<sup>4</sup> Excludes 563.300 fish larvals

Table 50: Animals used under § 7 (2) and § 4 (3) of the Animal Protection Act by severity

	Animals used under § 7 (2) Animal Protection Act	Animals used under § 4 (3) Animal Protection Act	Total	
Non-recovery	271.881	789.926	<b>1.061.807</b>	<b>32%</b>
Mild [up to and including]	1.759.160		<b>1.759.160</b>	<b>52%</b>
Moderate	416.499		<b>416.499</b>	<b>12%</b>
Severe	124.597		<b>124.597</b>	<b>4%</b>
<b>Total</b>	<b>2.572.137</b>	<b>789.926</b>	<b>3.362.063</b>	<b>100%</b>